Resolution Foundation
REPORT

An unhealthy interest?

Debt distress and the consequences of raising rates

Matthew Whittaker

February 2018

resolutionfoundation.org info@resolutionfoundation.org +44 (0)203 372 2960 @resfoundation

Acknowledgements

The author would like to thank Phillippe Bracke of the Bank of England for providing some of the data used in this report, and Toby Nangle from Columbia Threadneedle for earlier discussions on the nature of the household debt problem. All errors in the report remain the author's alone however.

Contents

Executive Summary

February's *Inflation Report* from the Bank of England stated that **the Monetary Policy Committee expects to raise interest rates "somewhat earlier and by a somewhat greater extent" than it had thought back in November**. This tightening is driven as much by pessimism over the UK's potential supply growth as it is by optimism about prospects for output however. Simply put, even modest projected growth in the coming years is expected to outstrip the country's growth potential and so stoke inflationary pressures.

If this assessment proves correct, then **UK households face the prospect of rising interest rates even as income growth remains subdued**. Rising rates can of course generate winners (savers) as well as losers (borrowers), but the Bank's statement is likely to heighten already-growing concerns about the possibility of another debt-bust in the coming years. Such **concerns have been gaining prominence over recent months, driven by a credit 'surge' that has taken growth in consumer credit back to levels last recorded just before the financial crisis and lifted overall household debt towards the £1.9 trillion mark**. The Bank too has expressed worries about a "pocket of risk" in the consumer credit market, pointing to a loosening of underwriting standards by lenders over the course of the last few years.

Yet on many measures the UK's household debt position looks relatively healthy. The ratio of debt-to-household income has picked-up a little since the end of 2015, but it remains well down on the pre-crisis peak. And **the cost of servicing household debt is back to mid-1990s levels**. UK households spend 7.7 per cent of disposable income on debt repayments (including mortgage principal), down from 12.3 per cent at the start of 2008 and an all-time high of 12.9 per cent in 1990 when the base rate stopped just short of 15 per cent.

And post-crisis reforms of the regulatory system have done much to remove some of the worst lending practices that prevailed before 2008. The proportion of new mortgages advanced without any verification of the borrower's income plummeted from 46 per cent in 2007 to less than 1 per cent in 2017. Similarly, interest only mortgages made up just 19 per cent of new advances in 2017, compared with 49 per cent in 2007. Loan-to-values have fallen too, with the share of mortgages provided at more than 90 per cent falling from 9 per cent to 3 per cent over the same period. New loans of more than 95 per cent of the value of the property have all but disappeared.

Looking again at the recent growth in consumer credit, there are reasons for thinking it less problematic than some have feared. Coming off the back of two years' of solid income growth and at the end of sustained period of belt-tightening, it is understandable that households reacted to falling loan rates, an expansion of interest-free credit cards and the continued growth of access to dealership car finance. **Crucially, the increase in consumer credit appears to have been driven primarily by higher income households who we would expect to be relatively well positioned to meet ongoing commitments**. Average debt repayments rose as a share of pre-tax income among the richest three-fifths of working-age households between 2016 and 2017, but *fell* for lower income households.

There is evidence too that this credit 'surge' is already starting to run its course. Prompted no doubt in part by the swift intervention of regulators, lenders have reported a tightening of consumer credit lending criteria over the entirety of 2017. And they expect further tightening to occur this year.

Taking all of this together, **UK households look relatively well placed at the aggregate level to deal with future rate rises that are expected** – even after accounting for last week's warning from the Bank of England – to be gradual and to lead to a new normal that remains well below the borrowing costs prevailing pre-crisis.

But that is not to say that household debt won't remain a big, and troubling, issue over the coming years. Sluggish income growth over the past decade means the UK's stock of debt remains elevated relative to household resources. That means **households are highly exposed to any increase in rates that surpasses current Bank and market expectation**. If the effective interest rate in the credit market were to move back to the average prevailing between 1987 and 2007, the costs of meeting households' commitments would quickly spiral. In this scenario, today's debt servicing ratio would jump from 7.7 per cent to just under 12 per cent – back towards the levels recorded at the start of the financial crisis. If rates were to rise beyond the historical average, we'd move into unprecedented territory.

Such an outcome on rates appears very unlikely, but it serves as an illustration of how sensitive the outlook is for UK households to even modest movements in borrowing costs.

More concerning still is the fact that – even before we contemplate the prospect of rate rises – **a significant minority of borrowers are already displaying signs of debt 'distress'**. Looking across all working-age households, 6 per cent (1.2 million) were suffering from three or more measures of distress in late-2017. As many as 21 per cent (4.3 million) said they had struggled to pay for their accommodation in the past 12 months, and 17 per cent (3.4 million) reported being "very" concerned about their level of debt and/or finding unsecured debt repayments a "heavy" burden. Just over one-in-ten (11 per cent, 2.2 million) working-age households reported being in arrears on credit payments over the past year.

Importantly, **the situation looks starker still when we focus on lower income households**. Among the poorest fifth of working-age households – fewer of whom hold any debt – **approaching half (45 per cent) reported at least one form of debt 'distress'**. That comprised 36 per cent struggling to pay for their accommodation, 21 per cent finding unsecured repayments a "heavy" burden and/or being "very" concerned about their debt, and 16 per cent in arrears. Within this lower income group, 8 per cent were suffering at least three forms of 'distress'.

Lower income groups are also more likely to lack the access to savings and further credit that can provide resilience in the face of any changes in circumstances. Two-thirds (65 per cent) of working-age households in the poorest fifth said they didn't believe they had sufficient savings to deal with an "emergency" in late-2017, compared with 48 per cent across the working-age population as a whole and a figure of 29 per cent among the richest fifth. Likewise, 37 per cent of those in the bottom fifth reported being credit 'constrained' – defined as being "put off" spending by concerns about not being able to access credit – compared with 28 per cent across the wider working-age population and 22 per cent in the top fifth.

These outcomes for lower income households highlight the importance of scratching beneath the aggregates in considering how well placed the country is for a period of rate rises. **While it is higher income households who have driven recent credit growth, the burden of debt continues to weigh heaviest on lower income groups**.

One way of considering the exposure faced by different groups of households to future rate rises is to look at the proportion who already record high debt servicing ratios. Ratios of 30 per cent and above (with repayments measured relative to pre-tax income) are associated with sharp increases in arrears, implying that those above this threshold might be considered 'at risk'. **One-in-ten (10 per cent, 2 million) working-age household already sit within the 'at risk' group, with that figure rising to 19 per cent among the poorest fifth of working-age households**.

Rate rises will inevitably increase these proportions to some extent, but there are too many moving parts – with tightening affecting not just borrowing costs but also returns on savings, macroeconomic performance and behaviours – to make any sort of definitive prediction of what happens next. Instead, **by way of illustration we consider the direct impact of an overnight 2 percentage point increase in mortgage rates alone**. This is unrealistic of course, because rates will only rise over time and we can expect some income growth alongside this, but it provides us an indication of the scale – and shape – of fall-out associated with a move of this magnitude.

Under such a scenario, the Bank of England expects just over one-third of mortgagor households to have to take some form of action –such as cutting spending, working longer hours or changing mortgage. **Our modelling suggests it would raise average monthly repayments among mortgagors by £71, or 14 per cent relative to the current average repayment level**. In cash terms, the increase would grow across the income distribution – amounting to £88 extra a month for mortgagors in the richest fifth of the population. Increases would also be largest for those aged 25-44 and for mortgagor households in London and the East Anglia region.

Relative to *income*, the increase would be more evenly felt – but it would add to an already stark picture for many lower income borrowers. Overall, the proportion of mortgagor households spending 30 per cent or more of their pre-tax income on mortgage payments (that is, the proportion we might consider 'at risk') would rise from 12 per cent (0.9 million) to 15 per cent (1.1 million). Among mortgagors in the bottom fifth of the income distribution, the 'at risk' group would rise from a huge 57 per cent to 59 per cent. **The jump in the 'at risk' group would be largest for mortgagors in the next quintile though, with the proportion rising from 17 per cent to 26 per cent**. Among mortgagors in the top fifth of the distribution, the proportion 'at risk' would rise from 4 per cent to 5 per cent.

This is far from being a prediction of what *will* happen, but is instead a description of the scale of effect associated with a relatively (by historical standards) modest movement in borrowing costs and a consideration of *who* would be most affected. But **within the new 'at risk' group of 1.1 million households that our modelling identifies, there is a sub-group for whom our arbitrary scenario might prove closer to the truth**.

One consequence of the welcome tightening of lending criteria that has occurred post-crisis is that some existing mortgagors might face limited options when trying to refinance in order to insulate themselves against rate rises. **So-called 'mortgage prisoners' face the potential prospect of having little option but to remain on their current lenders' standard variable rate mortgage over the coming years**. This matters because such rates are more expensive than many other variable and fixed rate deals – with spreads widening over the last few years – and because they respond more quickly to increases in the base rate than other products. As such, some prisoners could face overnight jumps in their mortgage rates as existing deals come to an end, while those already on the standard variable rate have little opportunity for hedging against future volatility.

There is no standard definition of the prisoner group, but our loose proxy includes all those who have very little equity in their home (who would fall foul of the absence of high loan-to-value mortgages), those who have very high loan-to-income ratios (reflecting the restriction on these types of mortgages), the self-employed (who might be most likely to struggle with new requirements on income verification) and those with interest only mortgages (which are now harder to obtain). We remove mortgagors with less than £50,000 left to pay, and all those who have taken out a mortgage since the introduction of new affordability 'stress tests' as part of Mortgage Market Review in 2014. Altogether, **this group of 'potential prisoners' comprises 11 per cent (810,000) of all mortgagor households in Great Britain**.

Overlaying the 'at risk' group of mortgagors identified in our rate rise modelling with this group of 'potential prisoners', **we arrive at a group of 275,000 (4 per cent of all mortgagor households) that might be considered both vulnerable in the event of a rate rise and hard placed to act now to protect themselves against the consequences of such rises**. The figure is of course illustrative only, but it highlights the importance once again of digging down beneath the headlines on debt to understand its distribution and the specific circumstances facing different borrowers.

Recent concerns about the dangers associated with the surge in consumer credit over the last year or so appear somewhat misplaced. The increase has been driven primarily by higher income households. Households which, even as modest rate rises feed through in the coming years, are likely to be in a position to keep calm and carry on.

But **household debt *does* remain a very real concern for a different reason: namely that its existing distribution means that debt 'distress' is already a reality for significant numbers of lower income households**. And the enduring size of our debt burden means that the situation is extremely sensitive to the ultimate scale of rate rises. The Bank can feel reassured that the first steps along the route of monetary tightening won't result in huge numbers of households falling over, but it – and policy makers more generally – must remain sensitive to the very different and more worrying prospects facing all too many indebted families.

Section 1

Introduction

Households in the UK have financial liabilities totalling nearly £1.9 trillion. That's an undeniably large amount – up from £1.6 trillion a decade ago, £0.6 trillion 20 years ago and less than £0.3 trillion 30 years ago. Yet, ultra-low interest rates mean the cost of servicing this debt is low by historical standards. With the Financial Policy Committee, Prudential Regulation Authority and Financial Conduct Authority re-writing the rules on lending in the post-crisis period and closely monitoring the market for signs of overheating, we might conclude that the UK financial sector looks reasonably well protected against the prospect of another crisis.

But household debt has been making a comeback over the last couple of years, even as household incomes have come under renewed pressure from rising inflation. As a result, there are signs of growing debt 'distress' among some borrowers. With November's increase in the Bank of England's base rate expected to mark the start of a tightening cycle on borrowing costs, there is some concern that the current benign picture on debt will quickly change.

In determining where the balance of risk lies, we must – as ever – consider not just the totality of debt but its distribution too. Most obviously that means thinking about *who* holds the debt. All else equal, we'd expect higher income borrowers to be more resilient than lower income ones. But there might be *regional* differences as well, especially if we are concerned about the prospect of a shock – such as a drop in house prices – that affects some parts of the country but not others. And the *type* of debt held also matters. Interest rates vary hugely by loan type, and have different sensitivities to rate rises.

We must also distinguish between the *stock* and *flow* of household debt. Identifying what and who has driven the recent debt flow is important for understanding the sustainability of this increase. But we must also have regard for the profile of the existing stock of debt, because it is this that matters when thinking about how households will respond to any economic shock. In this regard, much of the mortgage debt built up before the financial crisis and before the associated efforts to improve lending criteria might continue to cast a shadow over UK households.

In this note we review the scale of household debt and its recent 'surge', before looking in more detail at who holds what products. We consider also how the profile of the UK's household debt will stand up to increasing interest rates in the coming years. Specifically:

- **Section 2** details pre- and post-crisis trends in household debt, highlighting the improvements made in recent years along with some evidence of rising debt levels in recent months;
- **Section 3** considers the distribution of debt, looking in particular at how different measures of debt 'distress' vary across the income distribution;
- **Section 4** presents some thoughts on future rate rises, both showing who might be affected in the near- and medium-term and the extent to which rising borrowing costs might cause problems;
- **Section 5** offers some concluding thoughts.

Section 2

Household debt is high and rising, but this time is different – right?

Heading into the recession of 2008, the UK's household debt overhang was a source of significant concern for policy makers. Amid expectations of a large rise in unemployment, most commentators predicted a damaging wave of defaults and housing repossessions that would match those recorded in the early-1990s downturn. Yet a combination of ultra-low interest rates, lender forbearance and better-than-expected labour market performance meant such predictions proved overly pessimistic.

In this section we consider the household debt picture ten years on. Households look less indebted today, and the cost of servicing that debt is much reduced. There have also been significant efforts to improve the flow of new borrowing post-crisis, with tighter regulation and closer monitoring of trends in different parts of the credit market. But concern about household debt has been rising back up the agenda over the past year, driven by an increase in consumer credit in particular. The Bank of England has flagged some concerns about a "pocket of risk" in this area, and there is evidence of some worrying developments in the mortgage market too. As a result, while current credit arrears remain at historically low levels, levels of debt 'distress' have started ticking back up.

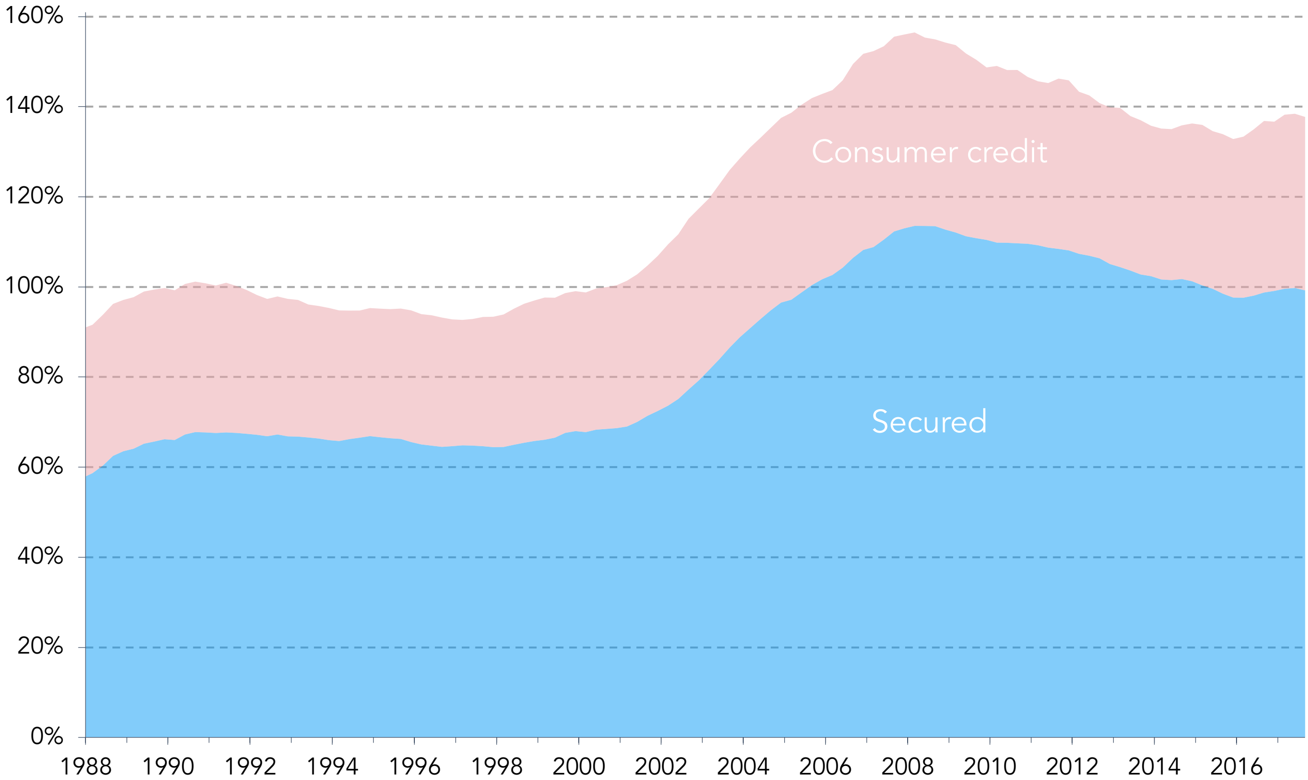
Some deleveraging and low interest rates mean debt servicing costs are low by historical standards

Total UK household financial liabilities fell just short of £1.9 trillion in Q3 2017, with the OBR expecting the figure to have broken £2 trillion by the end of that year.[1] Those are eye-wateringly big numbers of course but, as Figure 1 shows, the current total is some way off the peak when measured relative to annual household income.

[1] OBR, *Economic and Fiscal Outlook*, Supplementary Economy Tables, Table 1.11, November 2017

Figure 1: Household total debt-to-income ratio: UK

Outstanding credit as a share of disposable household income



Source: ONS, *National Accounts*

The peak came at the start of 2008, when the household debt-to-income ratio stood at 156 per cent. It subsequently fell to a low of 133 per cent by the end of 2015, driven by supply-side effects associated with the credit crunch and demand-side effects associated with uncertainty and deleveraging. More specifically, lenders wanted to lend less and shrink their balance sheets, while borrowers wanted to deleverage. The debt-to-income ratio has picked up since then, reaching 138 per cent in Q3 2017 – the final period shown here. That's broadly in line with the level recorded in 2004, and there is some suggestion in the chart that the level has plateaued over the course of 2017.

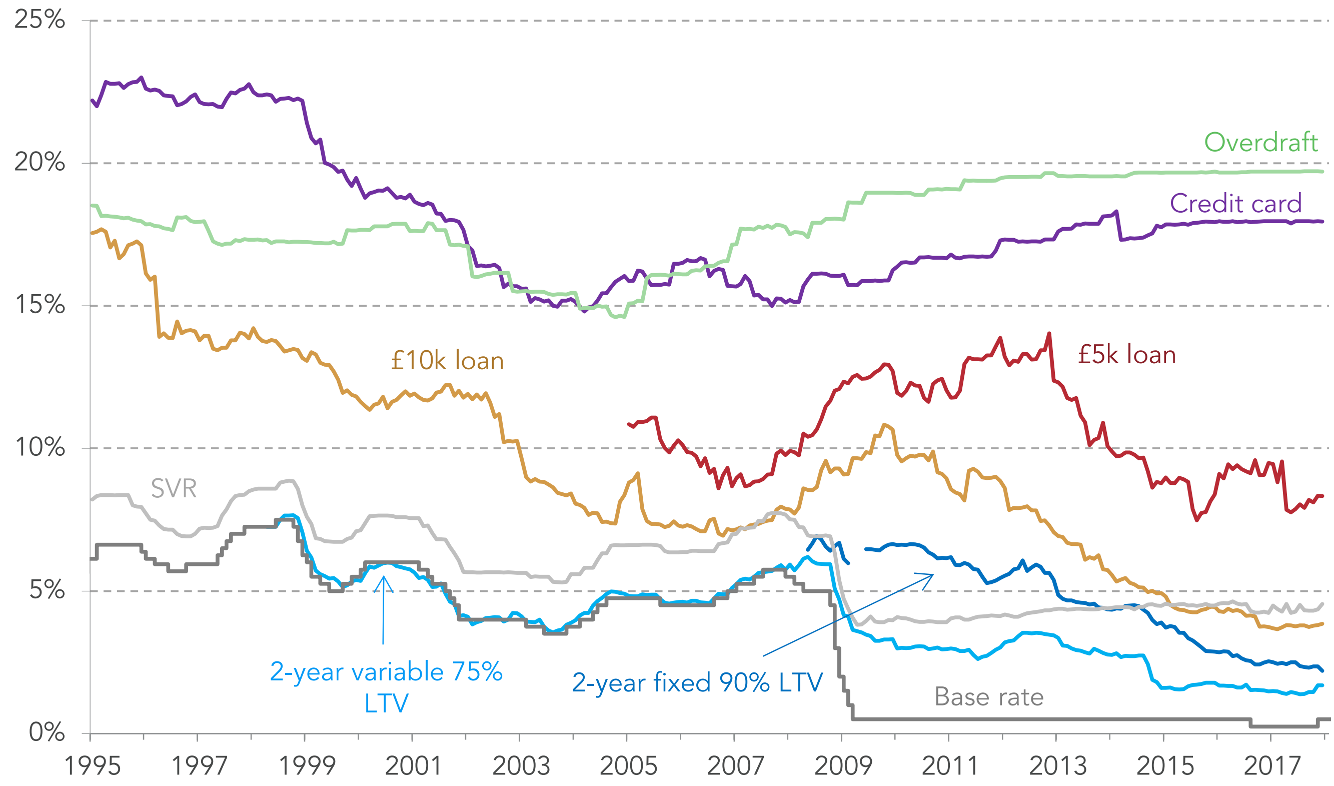
Nevertheless, even on this relative measure the current ratio is significantly higher than the average of 97 per cent recorded between 1988 and 2002. And the OBR projects that it will rise once more in the coming years, standing at roughly 150 per cent of household income by the start of 2023.

High though the debt level is, we are of course living in a time of ultra-low borrowing costs. Despite a 0.25 percentage point increase in November 2017, the Bank of England's base rate stands at just 0.5 per cent. That's a level it hasn't topped since the start of 2009, and which remains a long way below any rate recorded pre-crisis – stretching back to 1694.

As Figure 2 shows, this backdrop – along with the subsequent feeding through of the effects of the Funding for Lending Scheme and a gradual shift in lender expectations about the endurance of this period of loose policy – has been reflected in falling mortgage interest costs too. The average rate quoted today for a two-year variable mortgage at 75 per cent loan-to-value is just 1.7 per cent (and has been as low as 1.4 per cent), which compares with an average between 1998 and 2007 of 5.1 per cent.

Figure 2: Quoted interest rates

Average quoted household interest rates on selected loan products



Source: Bank of England

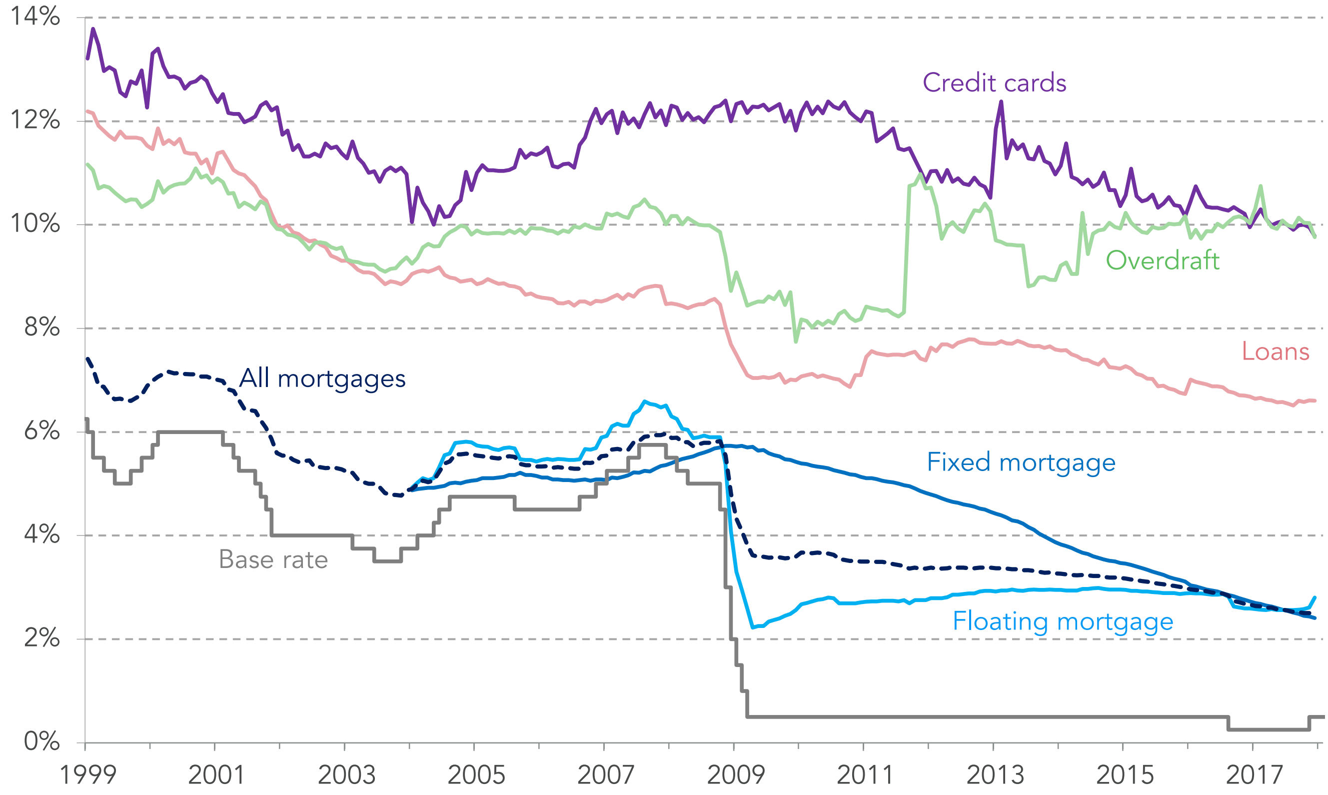
The story on consumer credit is more complex, with rates on most products tending to *increase* in the immediate post-crisis period. This reflected the financing difficulties faced by many lenders as the credit crunch unfolded and also underpinned the cross-subsidisation of other financial products such as deposit accounts. It also marked the point at which lenders were no longer able to cross-subsidise loan rates with revenues from payment protection insurance (PPI).

Rates on loans have since fallen sharply though, with the average quoted rate on a loan of £10,000 dropping from 10.8 per cent in November 2009 to just 3.7 per cent in February 2017 for example. Rates on credit cards and overdrafts have continued to rise steadily over the period however. Today's average quoted credit card rate of 18 per cent is broadly in line with the level in the second half of 2001, when the base rate was nine times higher.

The picture is different again when we switch from looking at the rates quoted on *new* products to consider instead the weighted average of rates applying across the stock of loans in the economy. Figure 3 shows, for example, that average interest rates on all mortgages in payment are a little higher than those offered on new products.

Figure 3: Effective interest rates

Average weighted household interest rates on stock of selected loan products



Source: Bank of England

This is driven largely by a compositional shift within the mortgage market. While there are some extremely low variable mortgage rates on offer, borrowers have increasingly migrated towards the certainty of slightly higher priced fixed rate deals. A significant proportion of those left on floating rates at the end of the period are likely to be on more expensive standard variable rate mortgages – either through inertia or through an absence of choice (the so-called 'mortgage prisoners'). As a result, the average rate paid on all fixed rate mortgages at the end of 2017 (2.4 per cent) was actually *lower* than the average across all floating rate products (2.8 per cent).

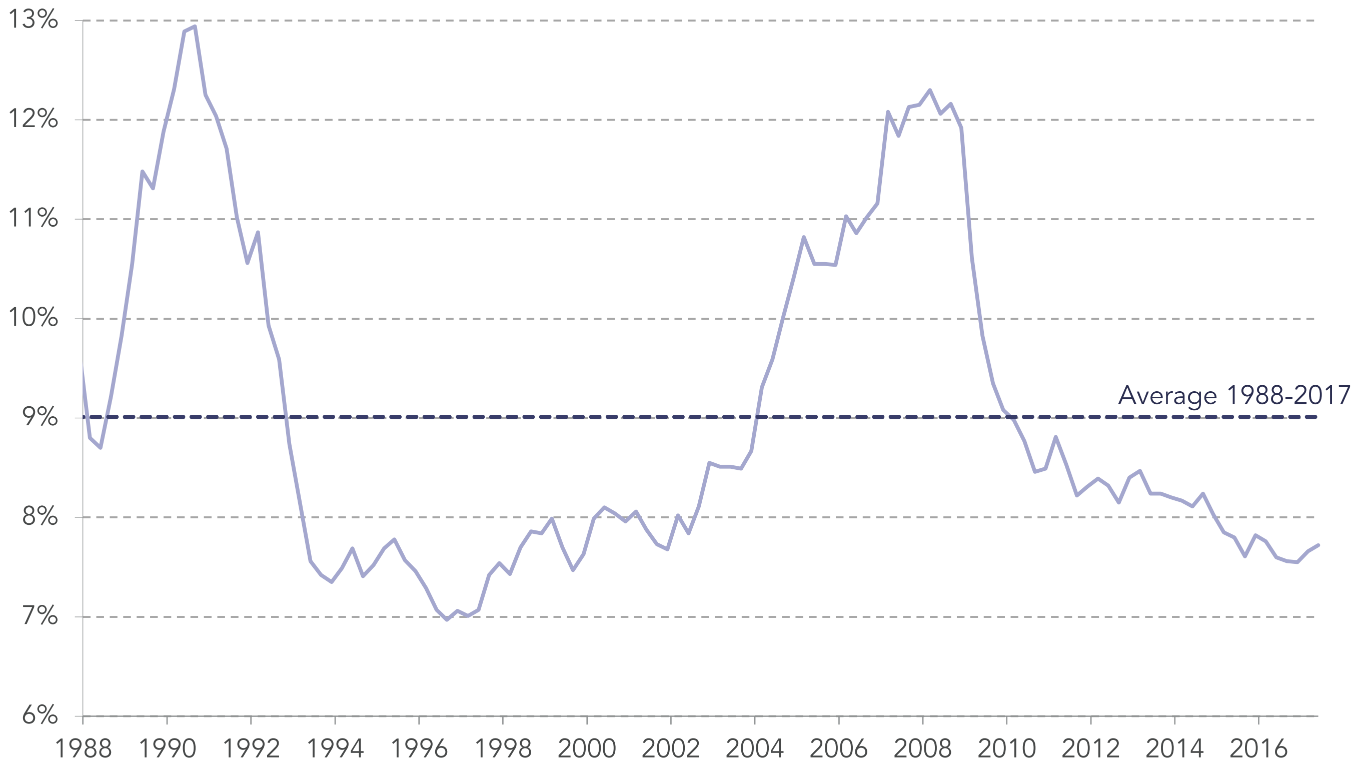
On consumer credit, Figure 3 shows that the decline in the interest rates paid on loans has been less sharp than the one suggested in Figure 2. That reflects the fact that loans taken out in earlier periods – before quoted rates started to fall – take time to run their course and drop out of the average. We can expect a similar effect once rates on new loans start to rise, with the average rate paid on the stock taking longer to follow suit.

A final difference between Figure 2 and Figure 3 arises in relation to overdrafts and credit cards. On both of these products, we see the average interest rates paid on the stock of debt are lower than the average rates offered on new deals. Again this points to a compositional explanation, with a larger balance of debt held on lower rate products.

Despite the differences across products however, the main theme of the last decade has been falling costs of borrowing. At the aggregate level, this means our record level of cash-terms household debt does *not* correspond to record repayment costs. Quite the opposite. As Figure 4 shows, total repayments (including mortgage principal repayments) accounted for roughly 7.7 per cent of total household income in the middle of 2017. That's down from 12.3 per cent at the start of 2008 and an all-time high of 12.9 per cent in 1990. It is also well below the average servicing ratio over the entire period of 9 per cent, being more in line with the levels of debt servicing recorded during the mid-1990s and early-2000s.

Figure 4: Household debt servicing costs: UK

Interest payments plus regular mortgage principal repayments as a share of disposable household income

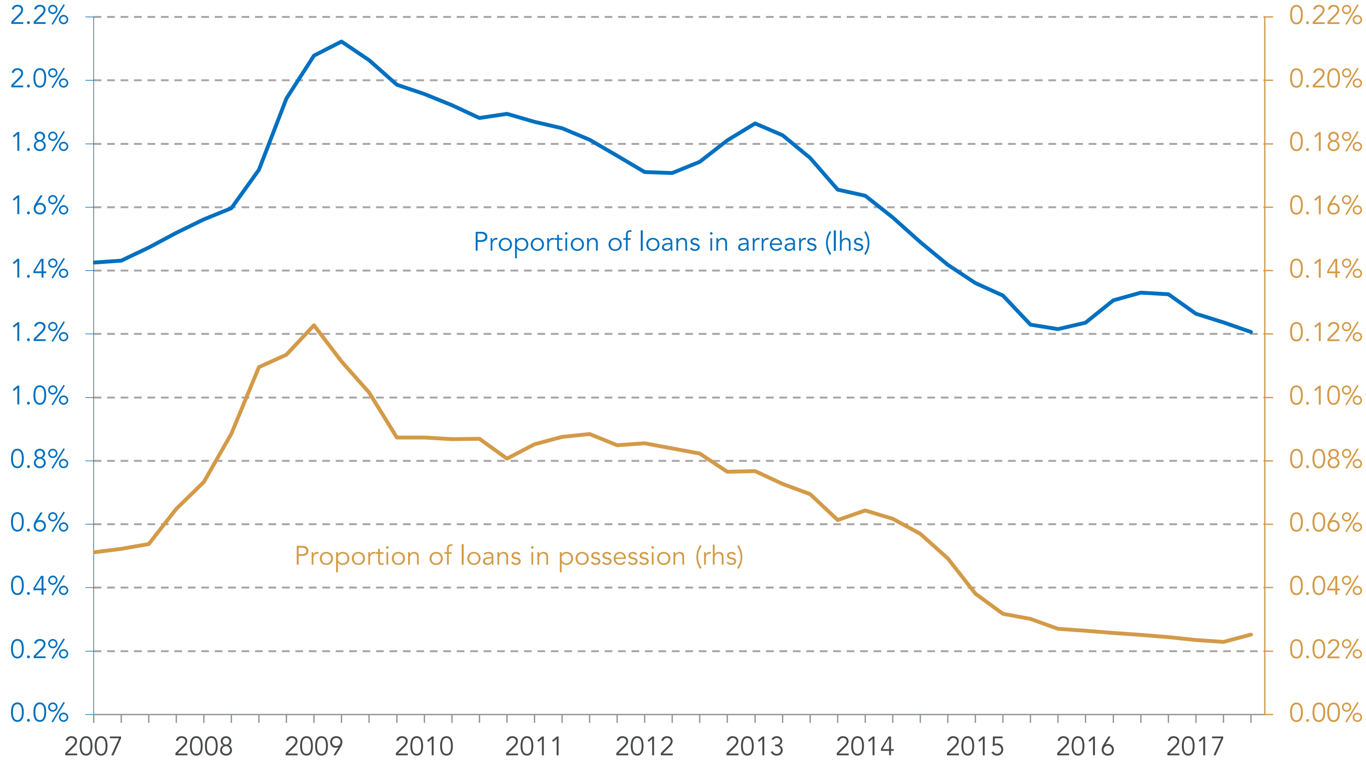


Source: Bank of England, *Financial Stability Report*, November 2017, Chart A.4

We might also take comfort in the fact that credit default rates appear subdued. Indeed, they have been lower than anticipated ever since the start of the post-crisis downturn. At the start of the financial crisis, the Council of Mortgage Lenders forecast that the number of home possessions would reach 75,000 in 2009. That would match the record set in 1991 and be equivalent to 0.6 per cent of the entire UK mortgage book. Yet, as Figure 5 shows, the figure peaked at 0.12 per cent of mortgages and has since fallen to 0.03 per cent – lower than the rate recorded going into the downturn.

Figure 5: Mortgage arrears and repossessions: UK

Proportion of mortgages in arrears/possession



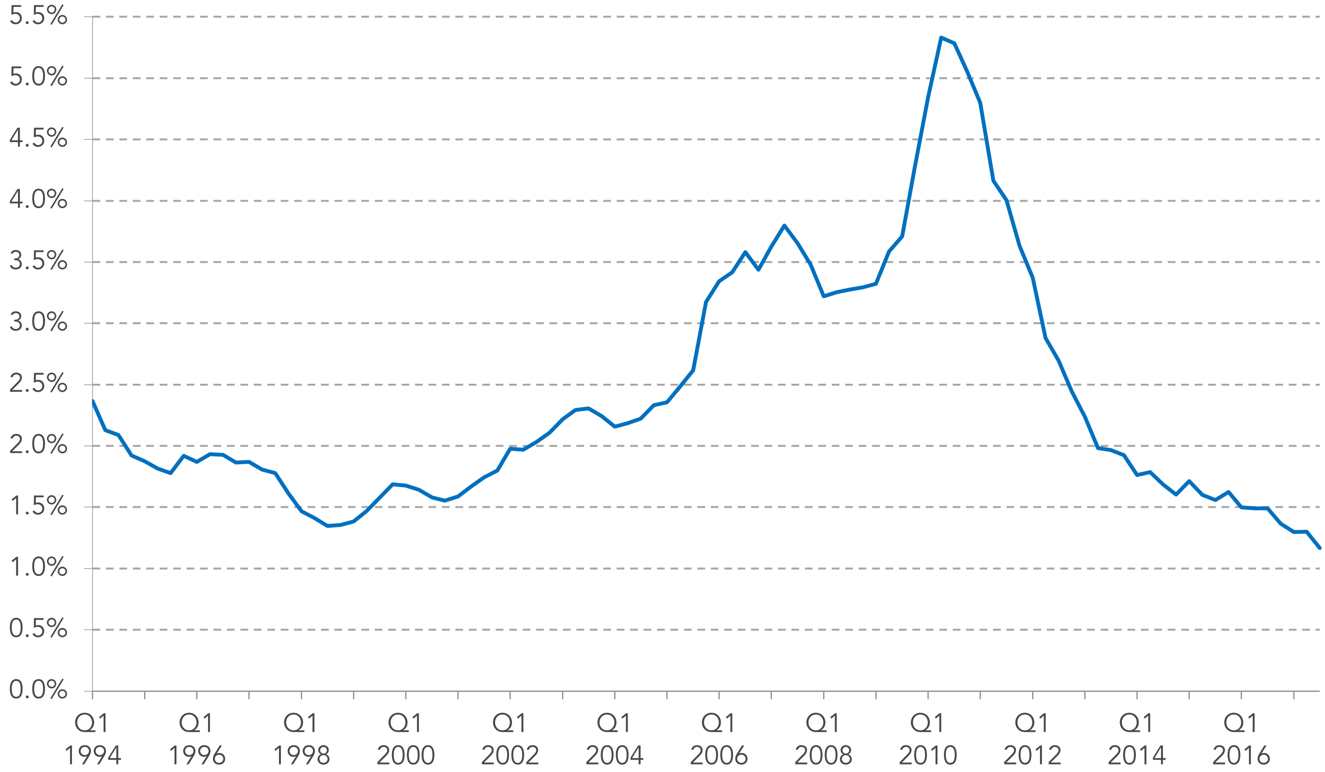
Source: FCA, *Mortgage Lenders and Administration Statistics*

The proportion of mortgages in arrears (of more than 1.5 per cent of the value of the mortgage, including those in possession) has also fallen over this period. In Q3 2017 it stood at 1.2 per cent, down from a peak of 2.1 per cent in 2009 and a pre-crisis level of 1.4 per cent.

It's a similar picture in relation to consumer credit. Figure 6 details write-offs as a share of the stock of consumer credit, and shows that the Q3 2017 rate of 1.2 per cent is the lowest rate recorded in the entire period from 1994. It compares with a pre-crisis average of 2.2 per cent, and a post-crisis peak of 5.3 per cent (in Q2 2010).

Figure 6: Consumer credit write-offs: UK

Four-quarter sum of consumer credit write-offs as a share of the outstanding stock of consumer credit 12 months earlier



Source: Bank of England, *Bankstats*, series TFHE, TFHF & BI2O

And the credit market has changed markedly since the financial crisis

In addition to historically low servicing costs in the household debt market, we might feel reassured that the credit market has been somewhat transformed over the past decade.

Ahead of the financial crisis, the ability of banks to access the wholesale market for funding removed the constraint on lending that had historically been imposed by deposit funding (when loan books could only grow as fast as banks could gather deposits). Looser lending practices prevailed, with growth in self-certified and interest-only mortgages for example. Increased borrower leverage appeared affordable, with rising asset prices masking a deterioration in credit quality. Risk was – wrongly – thought to have been diversified away via the process of securitisation, which allowed loans of varying quality to be bundled together and sold on to a vast range of unrelated investors.

Post-crisis, the regulatory regime has been overhauled. The Financial Services Authority has been replaced by three new bodies: the Financial Policy Committee (FPC), the Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA). The FPC has overall responsibility for financial regulation, overseeing both the PRA (which supervises the safety and soundness of financial firms) and the FCA (which protects customers).

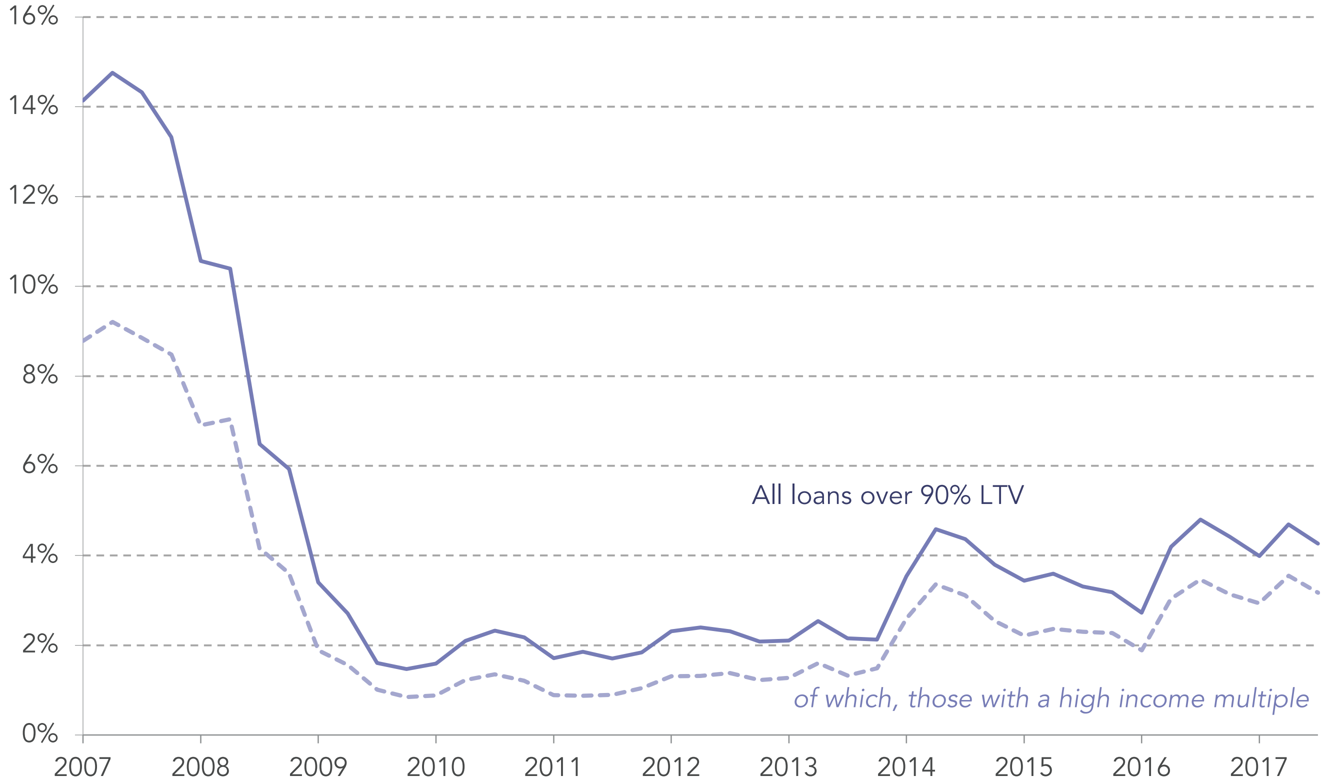
The FPC has also introduced new forms of 'macro-prudential regulation' – comprising directions and recommendations – designed to avoid overheating and imbalances in the financial market as a whole. For example, the FPC's recommendation on loan-to-income ratios requires the PRA and FCA to ensure mortgage lenders don't extend more than 15 per cent of their total number of new residential mortgages at loan-to-income ratios of 4.5 or greater. Similarly, its mortgage affordability recommendation requires lenders to apply an interest rate stress test for potential new borrowers that assesses whether they could still afford their mortgages if, at any point over the first five years of the loan, their mortgage rate were to be 3 percentage points higher than originally agreed.

Financial institutions themselves have also shifted behaviour. Of course, that in part has come in response to the new regulatory backdrop they face. But the scarring effect of the financial crisis and some ongoing uncertainty in the economy is also likely to have changed attitudes to risk to some extent.

We can see evidence of this shift in the credit market in a number of different measures. For example, Figure 7 details the sharp reduction in high loan-to-value mortgage advances in the post-crisis period. The total share of new mortgages with a loan-to-value of 90 per cent or above fell from 14.8 per cent in 2007 to a low of 1.5 per cent in 2009. It subsequently increased to 4.6 per cent in 2014, and has hovered around that point ever since. The proportion of mortgages advanced with both high loan-to-value *and* high income multiple has fallen less sharply, but a very sizeable reduction is clear nonetheless (from 9.2 per cent in 2007 to 3.2 per cent in 2017).

Figure 7: Mortgage loan-to-value: UK

Proportion of new mortgage advances provided at over 90% loan-to-value

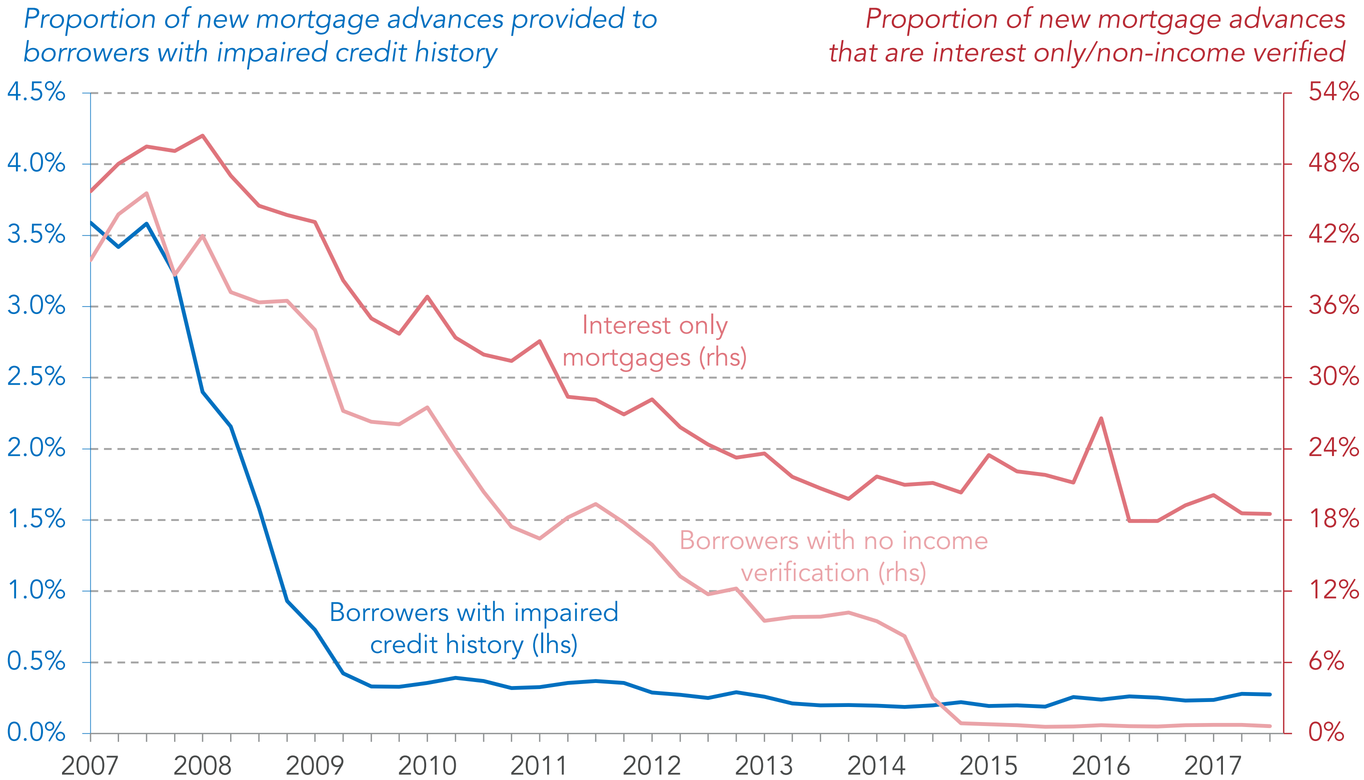


Notes: 'High income multiple' refers to single applications with a loan-to-income ratio of 3.5 or higher and joint applicants with a loan-to-income ratio of 2.75 or higher.

Source: FCA, *Mortgage Lenders and Administration Statistics*

There have also been marked reductions in non-standard mortgage access. Figure 8 sets out trends in the proportion of new mortgages provided to borrowers with impaired credit history and offered as interest only, as well as the proportion on which no income verification is required. In each case, the post-crisis drop is immediately evident. Interest only mortgages have gone from accounting for half (50.4 per cent) of all new advances at the start of 2008, to fewer than one-in-five (18.5 per cent) in Q3 2017. The fall in mortgages advanced to borrowers with impaired credit history was even swifter, collapsing from 3.6 per cent at the start of 2007 to just 0.3 per cent by the end of 2009. The figure has been broadly flat since then. Non-income verified mortgages have all but disappeared post-crisis – with the Mortgage Market Review ensuring that documentation has to be presented in nearly all instances – having accounted for 45.5 per cent of all new advances just a decade ago.

Figure 8: Non-standard mortgage access: UK



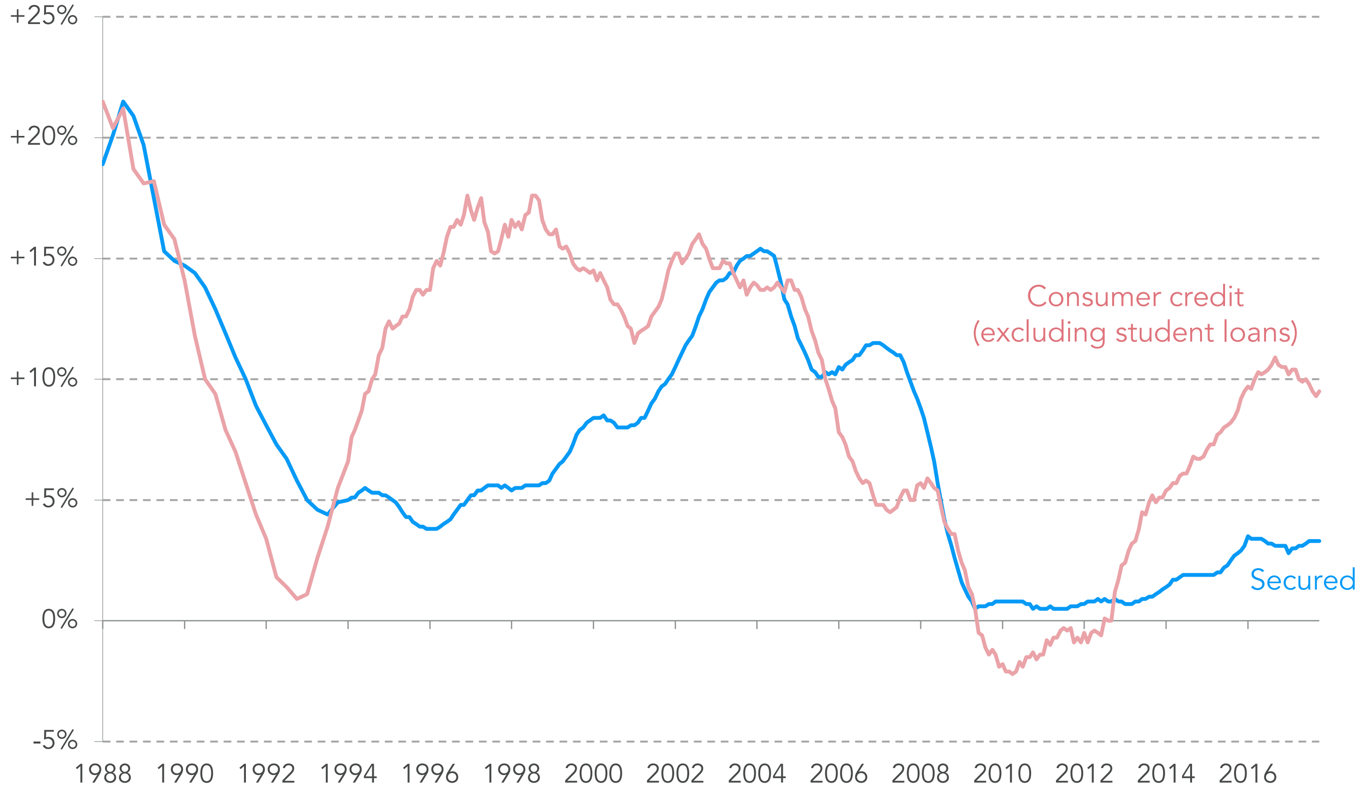
Source: FCA, *Mortgage Lenders and Administration Statistics*

But risks remain and we have experienced a 'surge' in consumer credit in recent months

Despite these apparently reassuring trends, concerns about household debt have risen back up the agenda in recent months. This owes much to the pace of growth in borrowing recorded in this time, with increases in consumer credit proving particularly rapid. As Figure 9 shows, annual growth in consumer credit reached 10.9 per cent towards the end of 2016 – its highest rate since 2005. While it has slowed a little since then, it remained at an elevated 9.5 per cent in December 2017.

Figure 9: Net lending growth: UK

Year-on-year growth in net lending to individuals (nominal)



Source: Bank of England

This overall growth in consumer credit has been driven in no small part by even more rapid increases in the use of car dealership finance, which has averaged year-on-year growth of 20 per cent since 2012. The stock of dealership car finance has increased by roughly £30 billion over that period, representing three-quarters of total growth in the stock of consumer credit.[2]

In one regard, this might assuage some fears about the sustainability of the recent rapid increase in consumer credit. After all, arrears rates on such finance tend to be lower than for other forms of consumer credit, reflecting the fact that the vehicle acts as collateral for the loan. But car values are subject to rapid depreciation and are dependent on conditions in the used car market. As such, here the risk relates to asset price movements.

Under personal contract purchase (PCP) deals – which account for around four-fifths of gross flows for new dealership car finance – lenders offer a guaranteed future value for the vehicle being purchased. These guaranteed values are typically worth 85 per cent to 95 per cent of the vehicle's expected future value, meaning any downturn in the second hand market might quickly lead to losses for lenders. In gross terms, guaranteed future value exposure is estimated to sit at around £23 billion.[3] The exposure therefore sits with lenders rather than consumers, but it is nonetheless material.

[2] Detailed data is hard to obtain, but dealership car finance growth topped 20 per cent year-on-year in 2014, and continues to grow at roughly 13 per cent annually. See Bank of England, *Financial Stability Review*, November 2017, Chart A.15; and Bank of England, *Financial Stability Review*, June 2017, Box 6

[3] PRA, *PRA Statement on consumer credit*, July 2017

While dealership car finance has played a big role in the consumer credit 'surge' of recent years, credit card and personal loan growth rates have also been rapid. And they have continued to rise over the last 18 months, even as annual growth in dealership car finance has slowed. Indeed, credit cards and personal loans account for roughly half of the total consumer credit growth in the last year.

One particular area of concern during this period relates to the extension of interest-free periods on zero interest credit cards. The average interest-free period offered to new credit card customers on balance transfer offers doubled between 2011 and early 2017, falling back only slightly since. This obviously brings benefits for consumers, by making it easier to smooth consumption without incurring an interest charge. But the length of these deals and their apparent widespread availability raises the risk that some consumers will build up large balances under the assumption that they can shift balances from card to card on an indefinite basis. Were such deals to be withdrawn in large numbers, borrowers might suddenly find themselves in difficulty.[4]

The Bank of England has been quick to pick up on such trends, referring to a "pocket of risk" associated with developments in the consumer credit market.[5] Its take is that lenders have attributed too much of the reduction in consumer credit defaults over recent years to improvements in underlying credit quality, rather than to improvements in the macroeconomic environment which might reverse over time. In short, the Bank has concluded that lenders have loosened their underwriting standards and expanded credit supply while underestimating the losses they could incur.

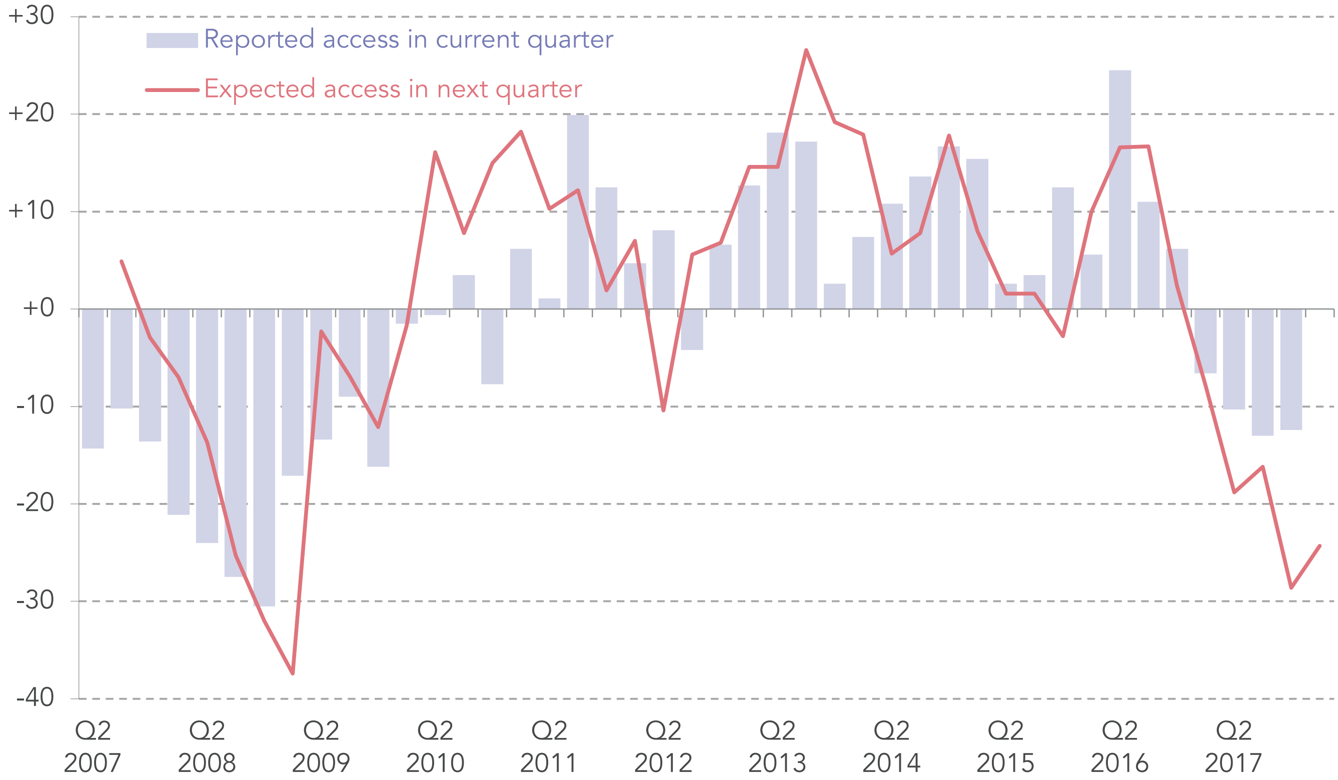
There are some signs that conditions in the consumer credit market have already started to re-tighten, however. Figure 10 sets out responses to the Bank of England's *Credit Conditions Survey* showing the balance of agents reporting an increase in availability of unsecured credit to households over time. This balance has been negative since Q1 2017, implying that consumer credit has become successively harder to obtain over the past year. The chart also shows that agents expect further tightening to be reported in the first quarter of 2018.

[4] E Dunkley, "Interest-free cards a 'ticking time bomb' bankers fear", *Financial Times*, 30 April 2017. An additional risk here relates to lender practice. Lenders' accounts include some of the revenue they expect to gain once a customer ends their interest-free period, raising the possibility that future profits may not materialise if consumers don't behave as assumed. See PRA, *PRA Statement on consumer credit*, July 2017; and PRA, *Follow-up to PRA statement on consumer credit*, 17 January 2018 for more detail.

[5] Bank of England, *Financial Stability Report*, November 2017

Figure 10: Access to unsecured credit: UK

Net balance of Bank of England agents reporting an increase in availability of unsecured credit to households



Source: Bank of England, *Credit Conditions Survey*

There are areas for concern in the secured credit market too

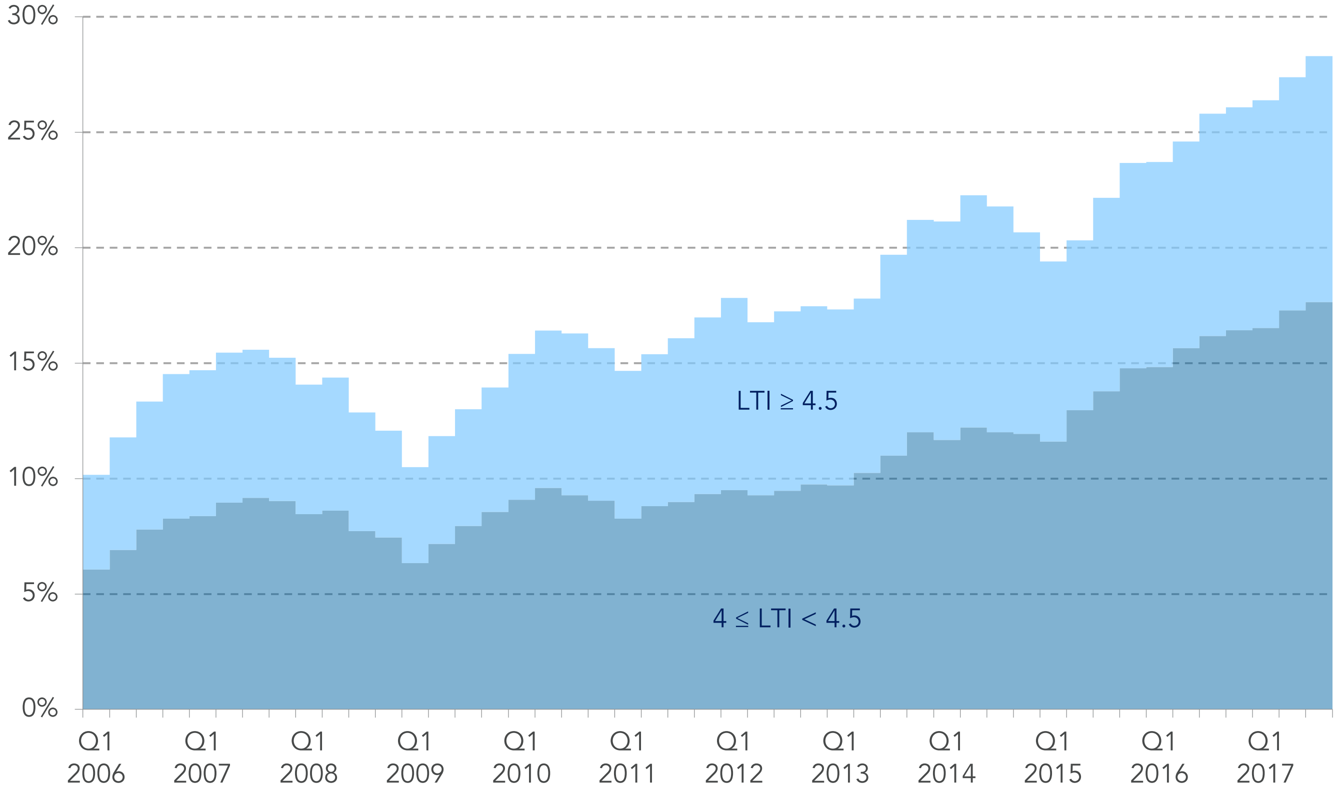
Looking again at Figure 9 we see that, while secured credit growth has also picked up recently, it remains some way down on anything recorded in the two decades preceding the financial crisis. Yet there are potential areas for concern in this market too. For example, the value of second mortgages – where existing mortgagors take out a second loan secured against their home – increased 13 per cent year-on-year in the 12 months to November 2017, totalling £1 billion.[6]

Loan-to-income ratios have been rising too. As noted above, one of the FPC's new 'recommendations' limits the number of mortgages extended with a ratio of 4.5 or higher to 15 per cent of a lender's new advances. Across the industry, the proportion of such mortgages currently accounts for 10.7 per cent of new advances – some way short of the FPC limit. There has, however, been a bunching of mortgages advanced at a loan-to-income ratio of between 4 and 4.5, as shown in Figure 11. As such, the total proportion of mortgages advanced with a loan-to-income ratio above 4 has increased from 10.2 per cent at the start of 2016, to 28.3 per cent in Q3 2017.

[6] Finance & Leasing Association, [Consumer Finance](), accessed 5 February 2018

Figure 11: Loan-to-income ratios on new mortgage advances: UK

Proportion of new mortgages with loan-to-income ratios above 4

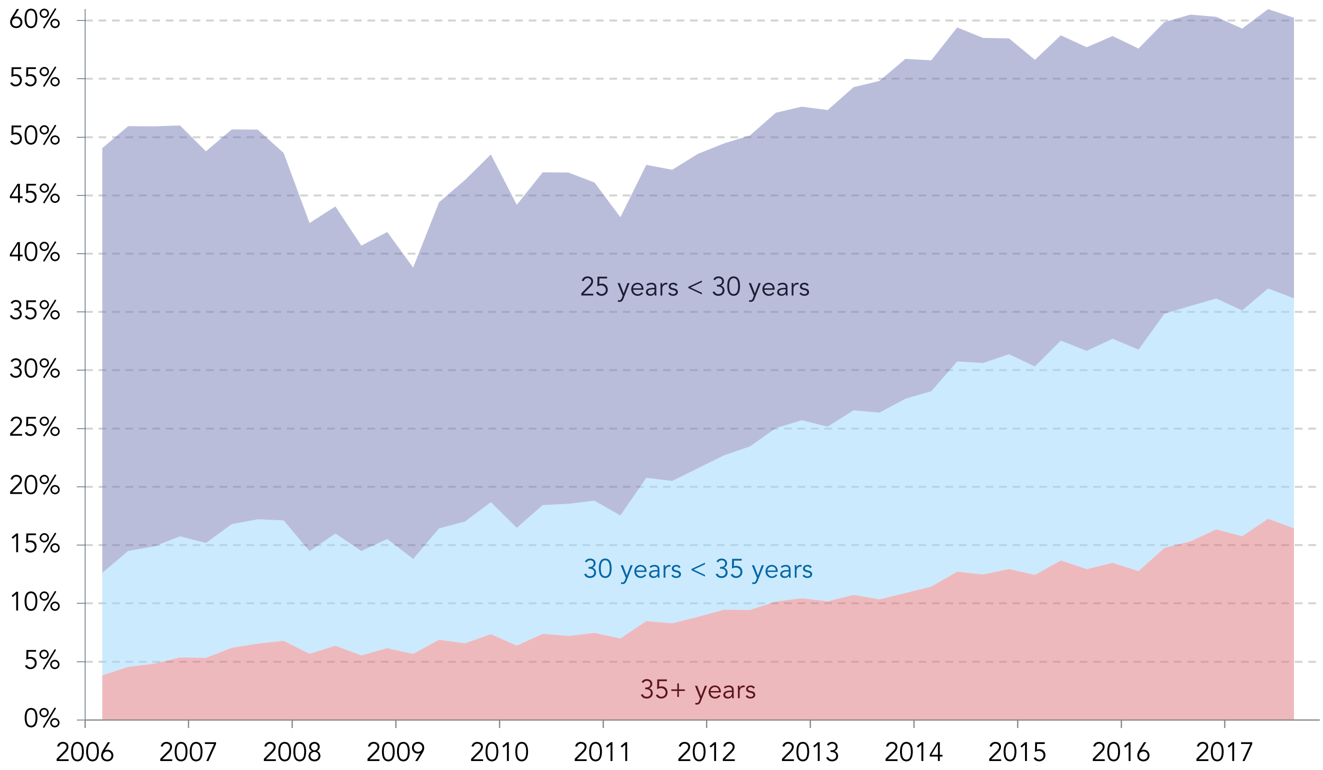


Source: Bank of England, *Financial Stability Report*, November 2017, Chart A.14

Concerns have also been expressed about changes in the terms associated with credit products. For example, as Figure 12 shows, the share of new mortgages with terms of 25 years plus – and 30 years plus in particular – has increased sharply since the financial crisis. The proportion of new mortgages lasting 30 years or more has tripled since the start of 2006 (from 12.6 per cent to 36.2 per cent in the latest figures), with the proportion having terms of 35 year plus jumping from just 3.8 per cent to 16.5 per cent.

Figure 12: Mortgage terms: UK

Proportion of new mortgages by duration of mortgage term



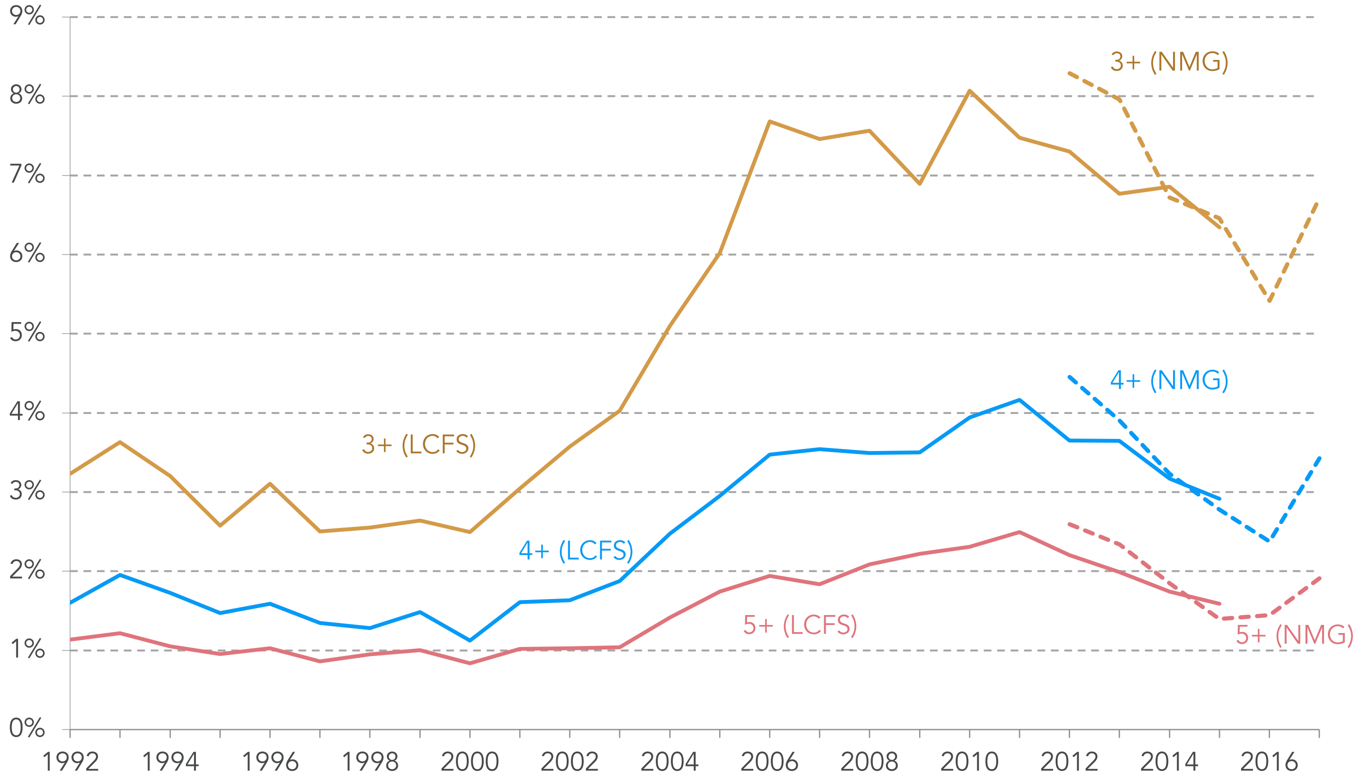
Source: Bank of England, *Financial Stability Report*, November 2017, Chart A.13

Longer terms reduce monthly costs for borrowers and so improve initial affordability – an especially important feature in an environment of ever-rising house price-to-income ratios – but they result in significantly higher credit charges over the lifetime of the loan. Importantly, less of the capital is paid down and interest charges form a higher share of each monthly payment too. As a result, borrowers bear more risk in relation to potential house price falls and interest rate rises.

Figure 13 switches to the *stock* of mortgage debt, measured relative to pre-tax household income in this instance. The figures are drawn from two different surveys, and so are not directly comparable over time. Nevertheless, the direction of travel in recent years is clear. Having peaked shortly after the financial crisis, the proportion of households with mortgage loan-to-income ratios in excess of 3 fell steadily after 2010. The trend appears to have reversed again in 2017, however. As a result, the shares of households with mortgage debt-to-income ratios in excess of 3, 4 and 5 have picked back up to the levels recorded in 2006.

Figure 13: Loan-to-income ratios on the mortgage stock: UK/GB

Proportion of households with mortgage debt-to-pre-tax income ratios of 3+



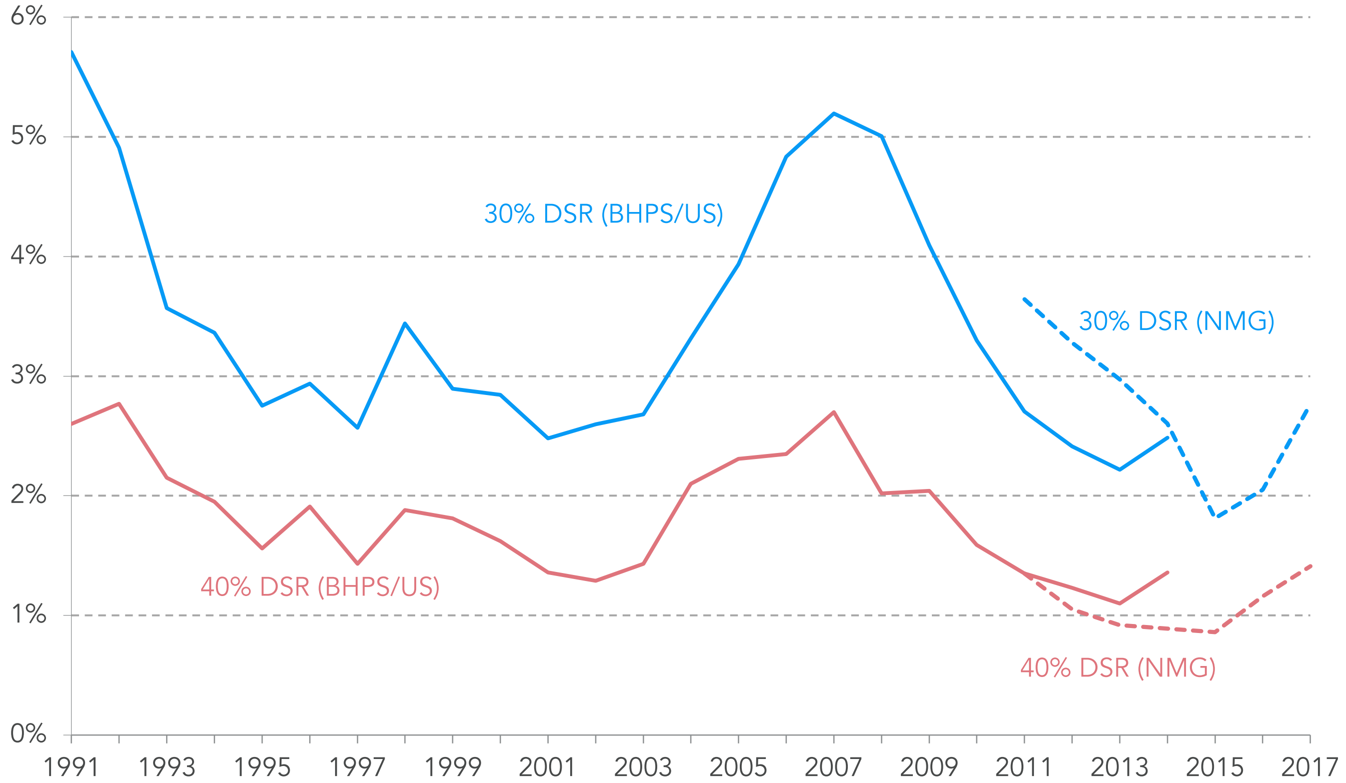
Notes: Loan-to-income ratios calculated with reference to pre-tax household income. 'LCFS' data are based on responses to the *Living Costs and Food Survey*. These figures cover financial years up to 2015-16 (shown as 2015 on the chart) and cover the UK. 'NMG' data are based on responses to the *NMG Consulting survey*. These figures are drawn from surveys in the second half of each year and cover Great Britain.

Source: Bank of England, "The financial position of British households: evidence from the 2017 NMG Consulting survey", *Quarterly Bulletin 2017 Q4*, December 2018, Chart 1

Similarly, while average debt servicing ratios remain low by historical standards – as we showed in Figure 4 – there is some evidence of a change of direction at the tail, with some pick-up in the share of households with very high debt servicing ratios. Figure 14 shows the proportion spending more than 30 per cent of their pre-tax income on mortgage repayments (including principal). As before, the time series makes use of different surveys that aren't directly comparable over time. But once more we can observe a clear reversal in the last two years of the reduction in debt servicing ratios that had prevailed post-crisis. The proportion of households with ratios in excess of 30 per cent remains low relative to what we've experienced since the mid-2000s, but the increase from 1.8 per cent in 2015 to 2.8 per cent in 2017 is a sharp one nonetheless.

Figure 14: High mortgage debt servicing ratios: GB

Proportion of households spending more than 30 per cent of their pre-tax income on mortgage repayments



Notes: Repayments include mortgage principal, and are measured as a share of pre-tax income. Data is calculated using *British Household Panel Survey* (1991–2008), *Understanding Society* (2009–13) and the *NMG Consulting survey* (2011–17).

Source: Bank of England, "The financial position of British households: evidence from the 2017 NMG Consulting survey", *Quarterly Bulletin 2017 Q4*, December 2018, Chart 2

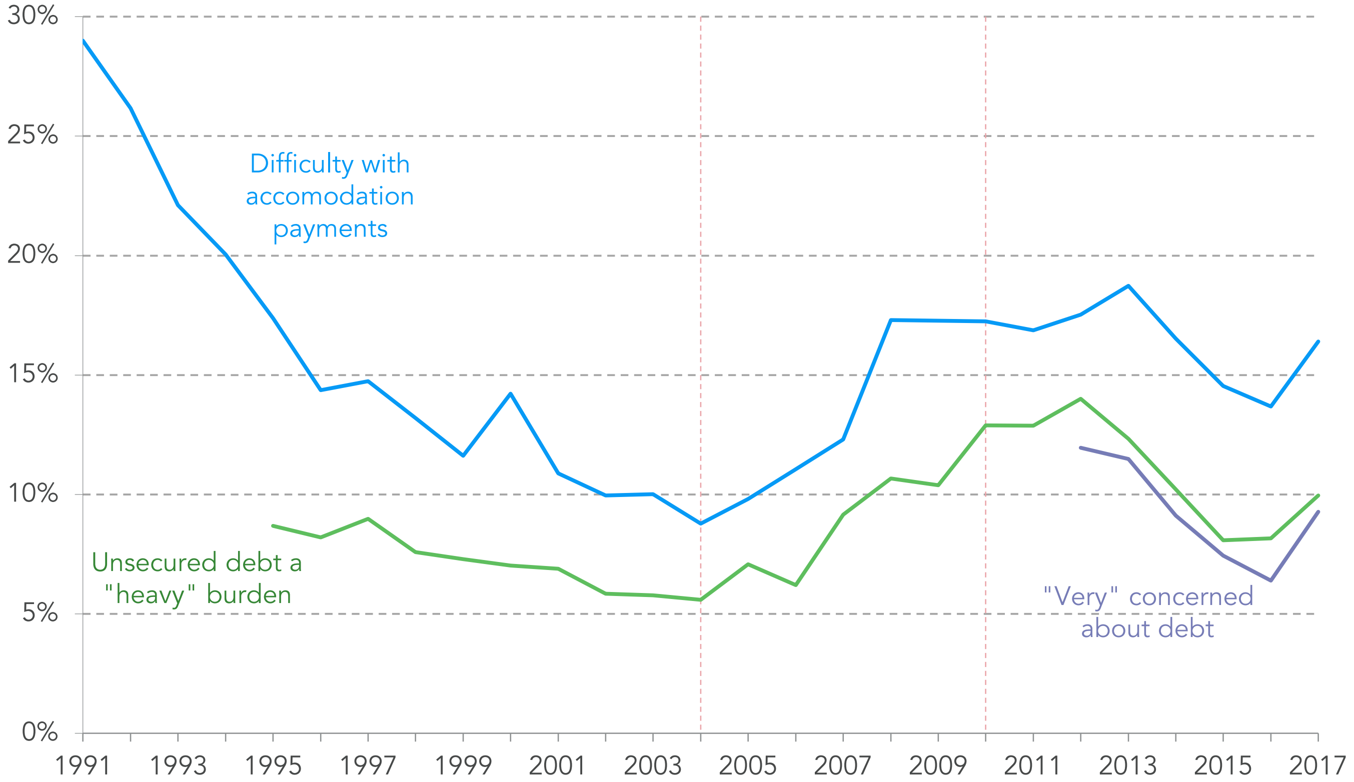
Overall, there are signs that financial 'distress' might be making a comeback

Taking a broader view of trends in debt, and wider financial, 'distress', Figure 15 tracks changes in three measures. It shows the proportion of households reporting having difficulty paying for their accommodation; the proportion declaring unsecured[7] credit repayments to be a "heavy" burden; and the proportion saying they are "very" concerned by their overall level of debt. Once again, discontinuities in the surveys mean we can't draw direct comparisons over time. But the general patterns follow the same path seen in Figure 13 and Figure 14.

[7] This category includes dealership car finance which is technically 'secured', but the survey question uses the 'unsecured' label as shorthand.

Figure 15: Debt and financial 'distress': GB

Proportion of households reporting different forms of debt and financial 'distress'



Notes: Data from 1991 to 2004 are from the *British Households Panel Survey*. Data from 2005 to 2010 are from the face-to-face *NMG Consulting survey*. Data from 2011 onwards are derived from the online *NMG Consulting survey*. Data from the BHPS and face-to-face NMG surveys have been spliced to match the online NMG survey results.

Source: Bank of England, "The financial position of British households: evidence from the 2017 NMG Consulting survey", *Quarterly Bulletin 2017 Q4*, December 2018, Chart 4

The proportion of households saying they are "very" concerned about their level of debt fell from 12 per cent in 2012 to 6.4 per cent in 2016, but it jumped back up to 9.3 per cent in 2017. Likewise, the proportion stating their unsecured credit repayments to be a "heavy" burden dropped from 14 per cent to 8.1 per cent between 2012 and 2015, but now stands at 10 per cent again.

The post-crisis dip in the proportion of households having difficulty paying for their accommodation was less marked than for the other measures – reflecting in part a compositional shift towards private renting that has offset the financial protection offered to mortgagors by falling interest rates. Again there was a marked increase in the 2017 survey though, taking the proportion to 16.4 per cent which – while not directly comparable – is higher than anything recorded between 1995 and the start of the financial crisis.

Overall then, despite clear improvements in lending standards over recent years, there are signs that difficulties with debt are making a comeback. To ascertain *which* households appear most vulnerable ahead of an expected period of rising borrowing costs, we turn in the next section to the *distribution* of debt and debt pressures.

Section 3

Debt, distribution and distress

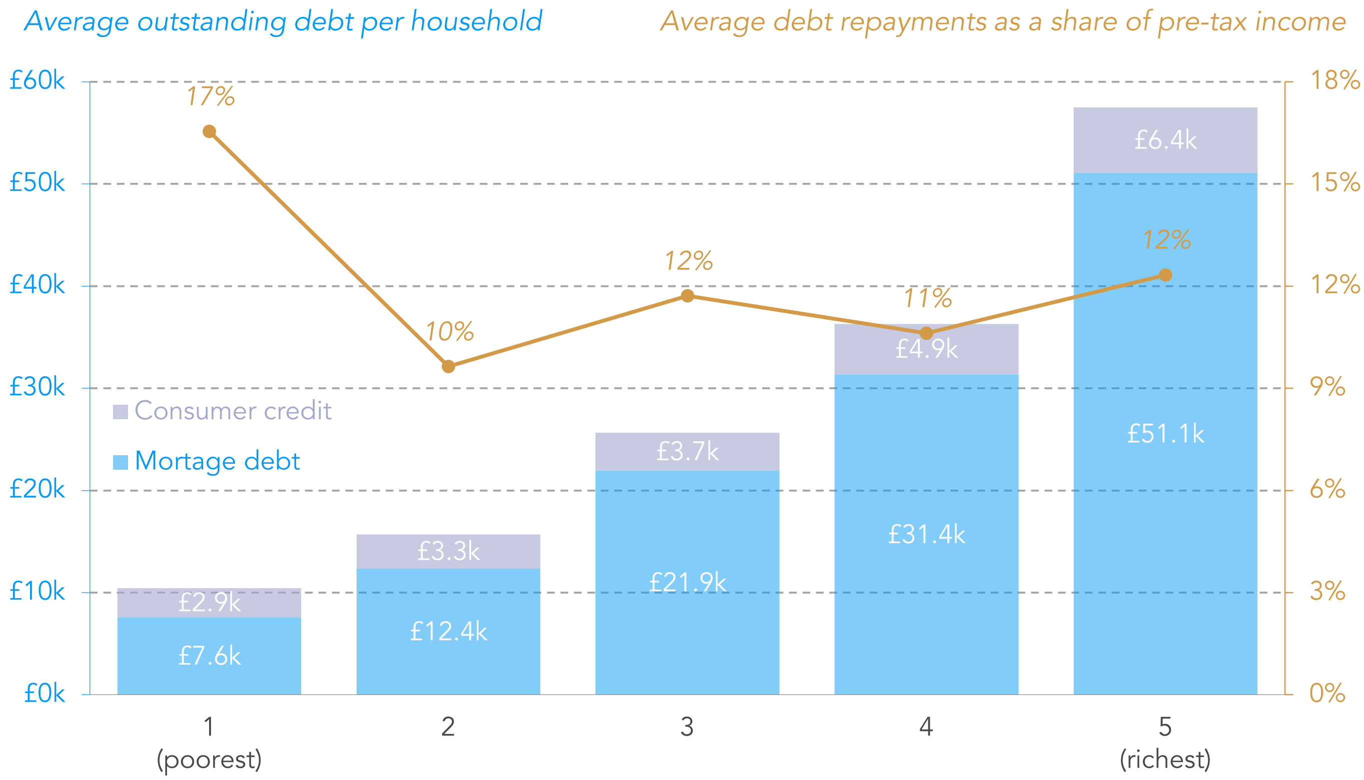
To better understand the potential strain debt might be placing on households now and in the future, we need to move beyond aggregate figures to consider the distribution of debt. In this section we therefore compare the profile of debts, and the repayment challenges they raise, across the income distribution. We find that ownership of credit products and debt levels tend to rise with income, and the good news in relation to the consumer credit 'surge' that has caused some concern in the last year or so is that it looks to have been concentrated among higher income households. But significant numbers of households show signs of experiencing debt 'distress' and exposure to the risk of any change in circumstances. While present across the income distribution, this burden appears to weigh heaviest on lower income households.

Debt rises with income, but debt servicing is highest at the bottom of the income distribution

Figure 16 sets out the average mortgage (including principal) and consumer debt held by households across the income distribution (including those with zero debt) in 2017, and shows – unsurprisingly – that the totals rise steadily with income. Among the poorest fifth of households, average debt in 2017 amounted to roughly £10,500. In contrast, average debt among the richest fifth of households equalled £57,500. Most of this difference comprised mortgage debt, with the richest fifth having 6.7 times more secured debt than the poorest fifth on average, compared with a ratio of 2.2 in relation to consumer credit.[8]

[8] The averages here are specific to the *NMG survey* and do not necessarily match precisely the figures that would be derived from looking either at the National Accounts or at the *Wealth and Assets Survey*. This reflects differences in coverage, methodology and sampling error. In particular, the *NMG survey* is subject to some potential sampling bias that is absent in other surveys. Generally speaking however, different surveys provide broadly consistent pictures on distributions and directions of travel. For further details, see P Bracke, H Sethi, E Rockall & C Shaw, "The financial position of British households: evidence from the 2017 NMG Consulting survey", *Quarterly Bulletin Q4 2017*, December 2017, pp4-5.

Figure 16: Distribution of debt by equivalised household income quintile: GB, 2017



Notes: Mortgage repayments include principal. Results exclude those survey respondents who declined to answer or said they didn't know. Also excludes those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Figure 16 also presents the average total debt repayment as a share of pre-tax income in each quintile. On this debt servicing measure, it is the poorest fifth of households which appear most stretched – with an average ratio of 17 per cent. The ratio is broadly even (at between 10 per cent and 12 per cent) across the rest of the income distribution.

Within these averages, households hold very different portfolios of credit. Table 1 shows the ownership of different secured and consumer credit forms of debt across the income distribution. In most instances, ownership tends to rise with income – with 75 per cent of households in the top fifth holding some form of debt, compared with 64 per cent in the bottom fifth. But some credit products are more evenly distributed, with very little difference in overall consumer credit ownership for instance. And the pattern is reversed altogether in relation to mail order credit.

Table 1: Ownership of credit products by equivalised household income quintile: GB, 2017

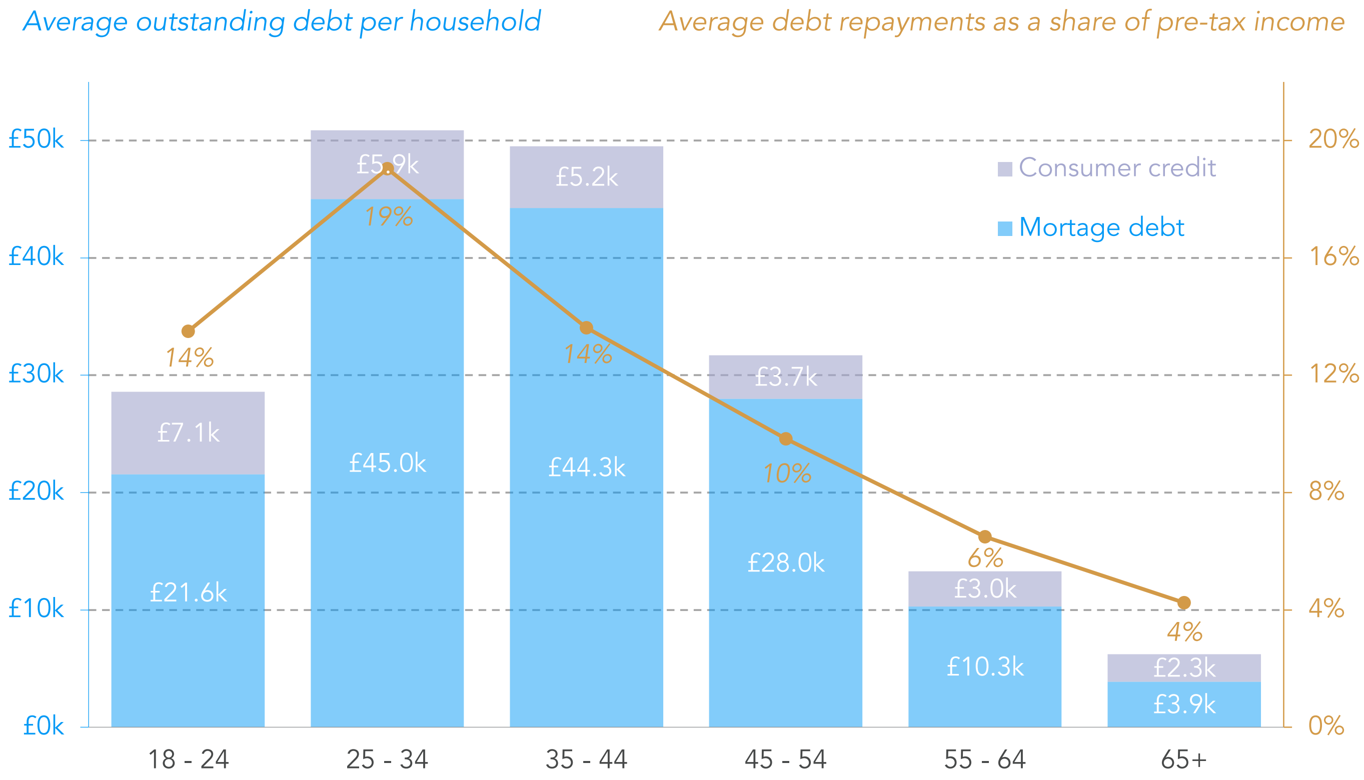
	1 (poorest)	2	3	4	5 (richest)	All households
Any outstanding debt	64%	61%	66%	70%	75%	67%
Any mortgage	14%	18%	29%	34%	44%	28%
Any consumer credit	59%	55%	58%	60%	62%	59%
Mortage & consumer	10%	12%	21%	24%	31%	19%
Credit card	33%	32%	33%	37%	39%	35%
Overdraft	15%	16%	19%	16%	16%	16%
Dealership car finance	9%	11%	18%	19%	23%	16%
Personal loan	13%	14%	16%	18%	18%	16%
Student loan	10%	10%	12%	14%	14%	12%
Store card	9%	7%	9%	7%	10%	9%
Mail order	12%	10%	7%	5%	5%	8%
Hire purchase (non-auto)	3%	2%	4%	3%	4%	3%
Payday loans	3%	2%	2%	2%	3%	2%
Social fund loan	5%	2%	1%	1%	1%	2%
Something else	1%	1%	1%	1%	1%	1%

Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All households' figures exclude those not providing income information. Survey conducted September 2017,

Source: RF analysis of Bank of England, *NMG Survey 2017*

Debt also varies by age of course. Figure 17 sets out average secured and consumer credit debt, along with average debt servicing ratios, across a selection of age ranges. It shows that debt peaks in absolute and relative terms in the key family formation years of 25-44. On average, households headed by someone aged 25-34 spent nearly £1 in every £5 (19 per cent) of their pre-tax income on debt repayments in 2017. In contrast, households headed by someone aged 65 or over allocated just 4 per cent of their pre-tax income to debt repayments on average.

Figure 17: Distribution of debt by age of head of household: GB, 2017



Notes: Mortgage repayments include principal. Results exclude those survey respondents who declined to answer or said they didn't know. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

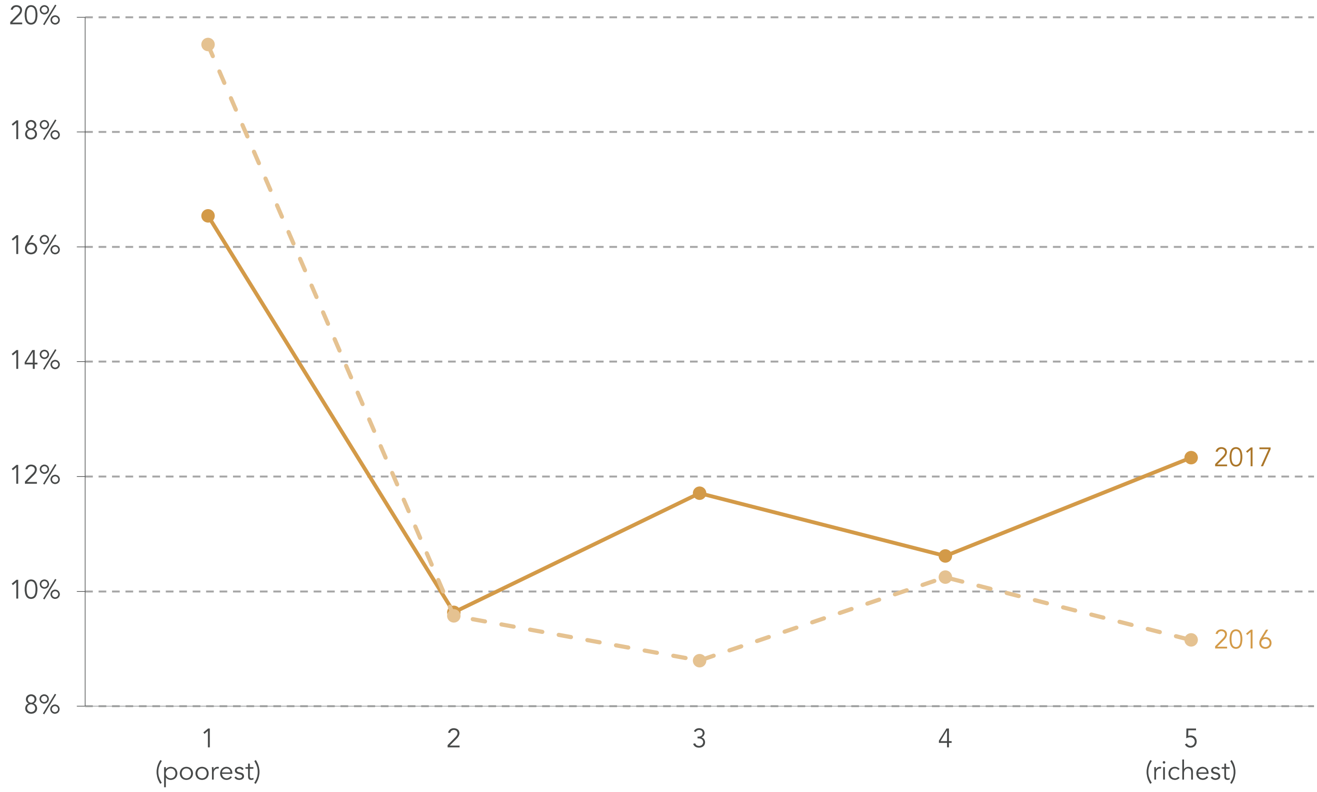
Recent credit growth appears to have been driven primarily by higher income borrowers

To help determine how worried we should be by the credit 'surge' recorded in the last year or so, it is worth considering which consumers have driven this recent growth. Given the importance of car dealership finance and – to a lesser degree – credit cards and personal loans to this increase, we might expect the growth in debt to be similarly concentrated among higher income households who tend to hold more of such products.

Figure 18 supports that assumption. It re-presents the 2017 debt servicing distribution set out in Figure 16 and compares it with the distribution for 2016. It suggests that average repayment-to-income ratios increased over the period in each of the top three quintiles of the income distribution, but *declined* at the bottom.

Figure 18: Debt servicing ratios by equivalised household income quintile: GB

Average debt repayments as a share of pre-tax income



Notes: Repayments include mortgage principal. Results exclude those survey respondents who declined to answer or said they didn't know. Also excludes those not providing income information. Surveys conducted September 2017 and September 2016.

Source: RF analysis of Bank of England, *NMG Survey 2017* & *NMG Survey 2016*

Sampling size issues mean we should be cautious about reading too much into this year-on-year trend, but our finding chimes with the conclusion of a Bank of England study making use of credit reference agency data, which showed that recent consumer credit growth has *not* been driven by subprime borrowers.[9] That study also found that the increase in borrowing has been strongest among people without mortgages, implying that it isn't the result of mortgagors turning to consumer credit having found themselves unable to access equity withdrawal options. Taken together, these two findings appear to offer some reassurance that the recent credit 'surge' hasn't been the product of lower income households overstretching themselves.

Viewed from this perspective, one take on the mini credit boom of recent time is that it was entirely rational and time-specific. Household confidence was high following two solid years' of income growth and record high employment. Demand for big ticket items (including cars) was likely to be elevated following a sustained period of belt-tightening. And all of this was set against a backdrop of falling interest rates.

[9] B Guttman-Kenney, L Kirwin & S Shah, "Who's driving consumer credit growth?" *Bank Underground*, Bank of England, 8 January 2018

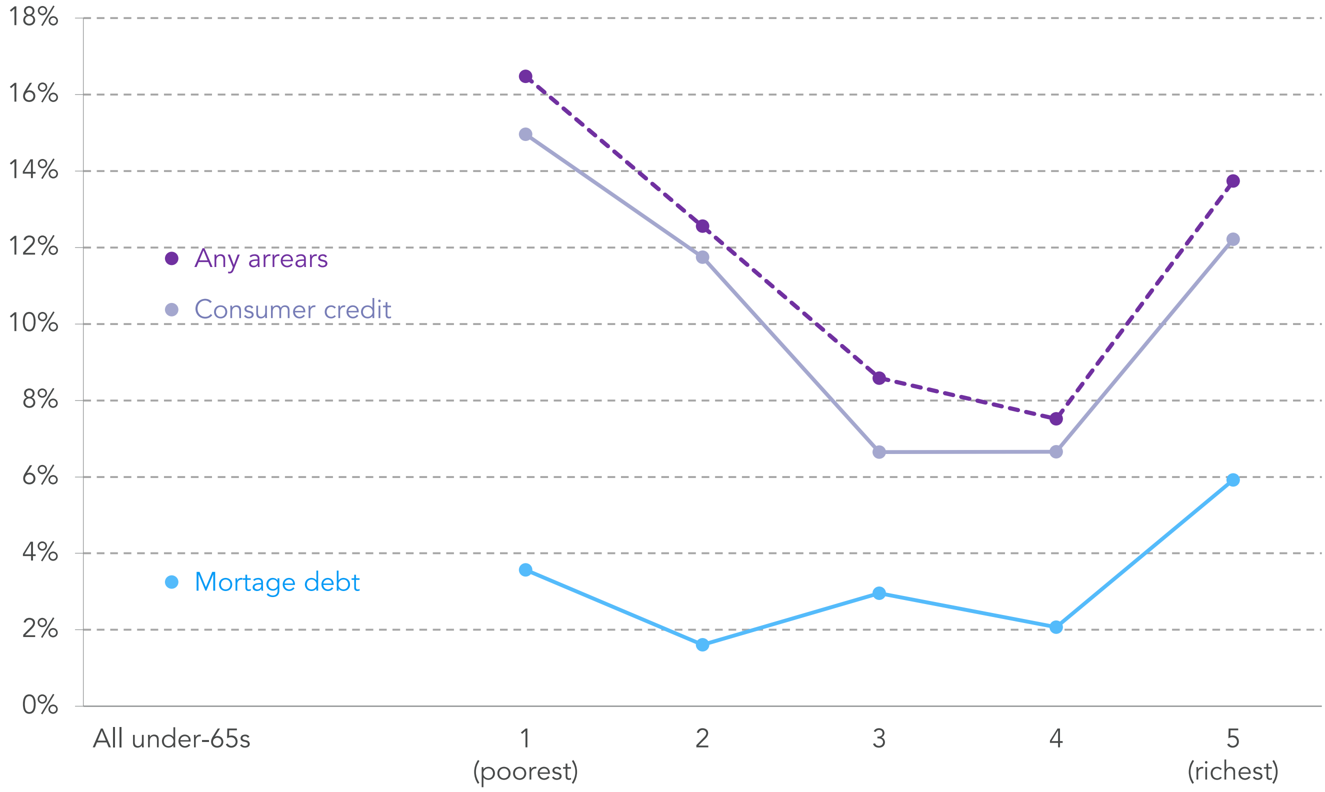
Despite the profile of recent *increases* in debt, levels of 'distress' are highest among lower income households

Reassuring though this interpretation is, it is worth noting that while recent consumer credit growth has been driven by higher income households, lower income households retain the highest debt servicing *levels*.

Switching to focus just on working-age households,[10] Figure 19 digs deeper by setting out the proportion of households in each working-age income quintile who reported being in arrears (more than two months behind) on any secured or consumer credit payments at some point in the 12 months to September 2017. It shows that it is lower income households who performed least well, with 16 per cent in the poorest fifth of working-age households reporting some form of arrears. That figure falls across the next three quintiles, before jumping back up to 14 per cent among the richest fifth of households.

Figure 19: Debt arrears: GB, 2017

Proportion of working-age households reporting being more than two months behind with any credit payments at any point in the past year, by equivalised household income quintile



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

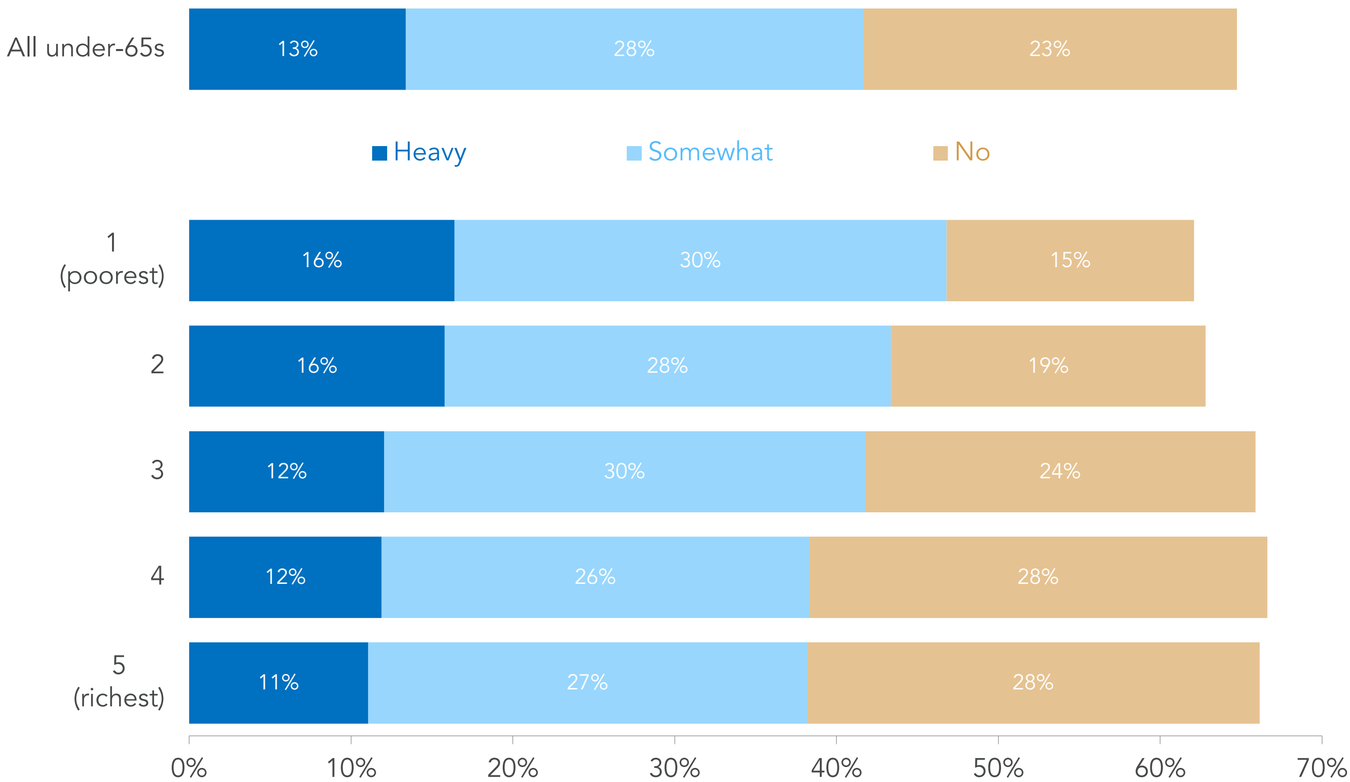
[10] Reflecting the fact that those aged 65 and over hold relatively little debt, as shown in Figure 14.

The profile changes when we split between secured and consumer debt, with higher income households most likely to be in arrears on mortgage payments. This is explained in part by higher levels of mortgage ownership in this part of the income distribution. If we focus instead just on those with a mortgage, we find that the proportion in arrears jumps to 24 per cent in the bottom income quintile and 12 per cent in the top quintile.

Figure 20 sets out the proportion of households in each working-age income quintile saying they've had some difficulty paying for their accommodation in the 12 months prior to September 2017, thereby returning in more detail to the broader measure of financial 'distress' we covered in Figure 15. Overall, just over one-in-five (22 per cent) working-age households reported difficulty, with this figure rising to more than one-in-three (37 per cent) among the poorest fifth of households.

Figure 20: Difficulty paying for accommodation: GB, 2017

Proportion of working-age households reporting having had difficulty paying for accommodation in past 12 months, by equivalised household income quintile



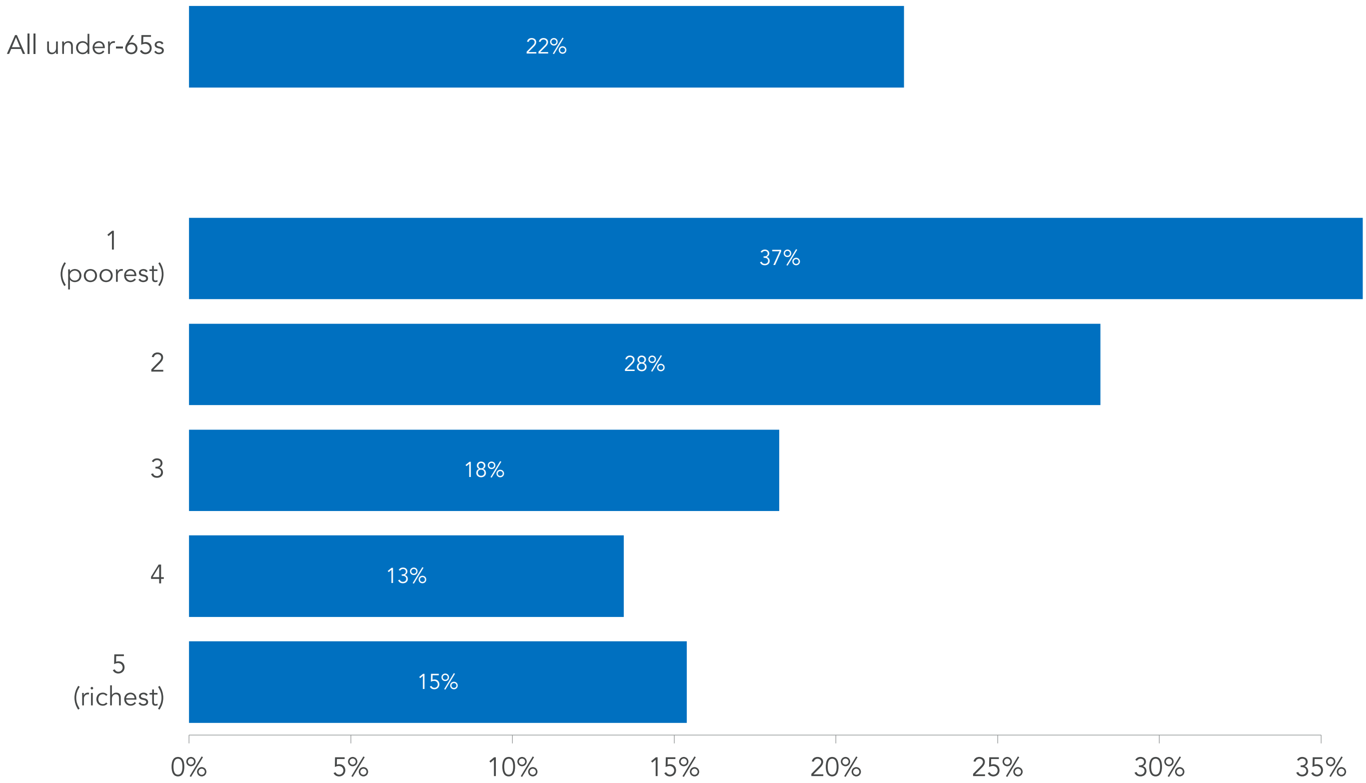
Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

We can similarly dig deeper in relation to the other two measures of 'distress' set out in Figure 15. Figure 21 shows the level of debt 'concern' reported among households across the income distribution. Overall, 41 per cent of households (including those with no debt) reported some level of concern in 2017. Roughly one-in-eight (12 per cent) said they were "very" concerned.

Figure 21: Debt 'concern': GB, 2017

Level of concern with current amount of debt (secured and consumer credit) among working-age households, by equivalised working-age household income quintile



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017. The remainder of responses in each quintile relate to households with no debt.

Source: RF analysis of Bank of England, *NMG Survey 2017*

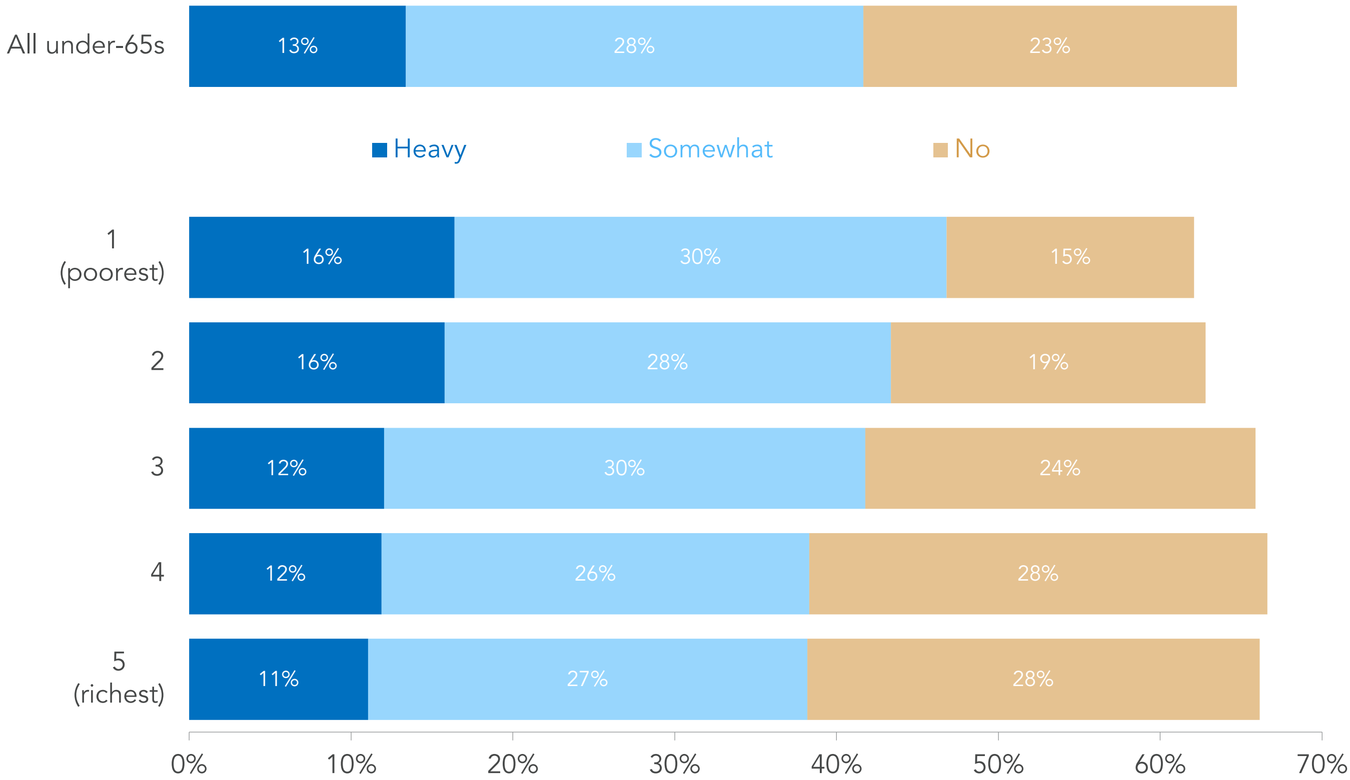
Concern is higher among lower income households, even though debt ownership is lower in this part of the distribution. Among the poorest fifth of working-age households, 44 per cent reported concern – including 16 per cent who were "very" concerned. Removing those with no debt from the sample raises those proportions to 66 per cent (any level of concern) and 24 per cent ("very" concerned).

Focusing on unsecured debt,[11] Figure 22 shows the share of working-age households in each income quintile describing their 2017 holdings as a "burden". Across all working-age households, the proportion reporting any level of burden is 41 per cent, with 13 per cent describing it as a "heavy" one. Again though, the proportions rise as we move down the income distribution. Among the poorest fifth of working-age households, 47 per cent identified their unsecured debt as a financial burden in 2017 – including 16 per cent who described it as "heavy".

[11] Including dealership car finance as per the survey question phrasing.

Figure 22: Unsecured debt 'burden': GB, 2017

Level of financial burden posed by unsecured debt among working-age households, by equivalised household income quintile

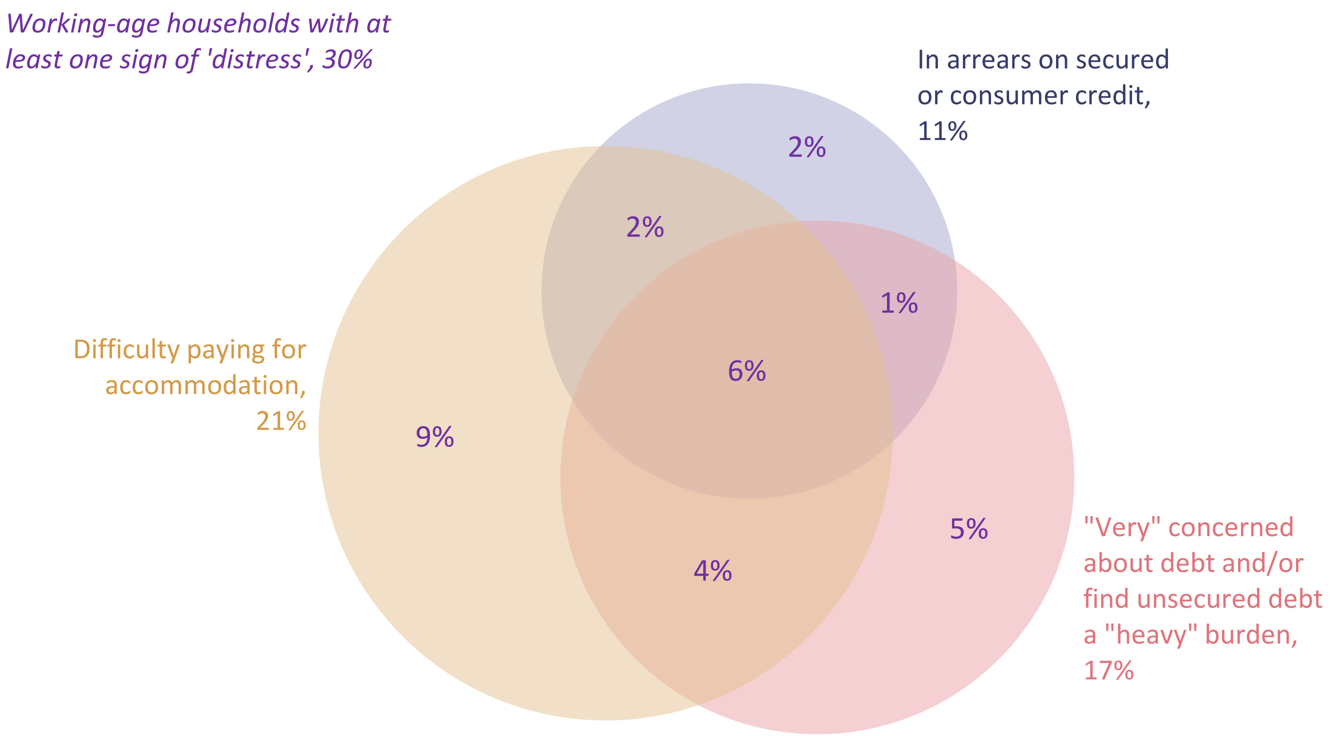


Notes: 'Unsecured' includes dealership car finance. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Bringing all of the various metrics set out above together, we can present a comprehensive picture of the scale and nature of debt 'distress' among working-age households as of September 2017. Figure 23 illustrates our findings. It shows that 30 per cent of working-age households reported at least one measure of 'distress' – incorporating arrears, difficulty with paying for accommodation and concern with debt. A sizeable minority (13 per cent) reported more than one measure of 'distress', and 6 per cent showed evidence of all three problems. That's equivalent to 1.2 million working-age households in Great Britain.

Figure 23: Overall working-age debt 'distress': GB, 2017

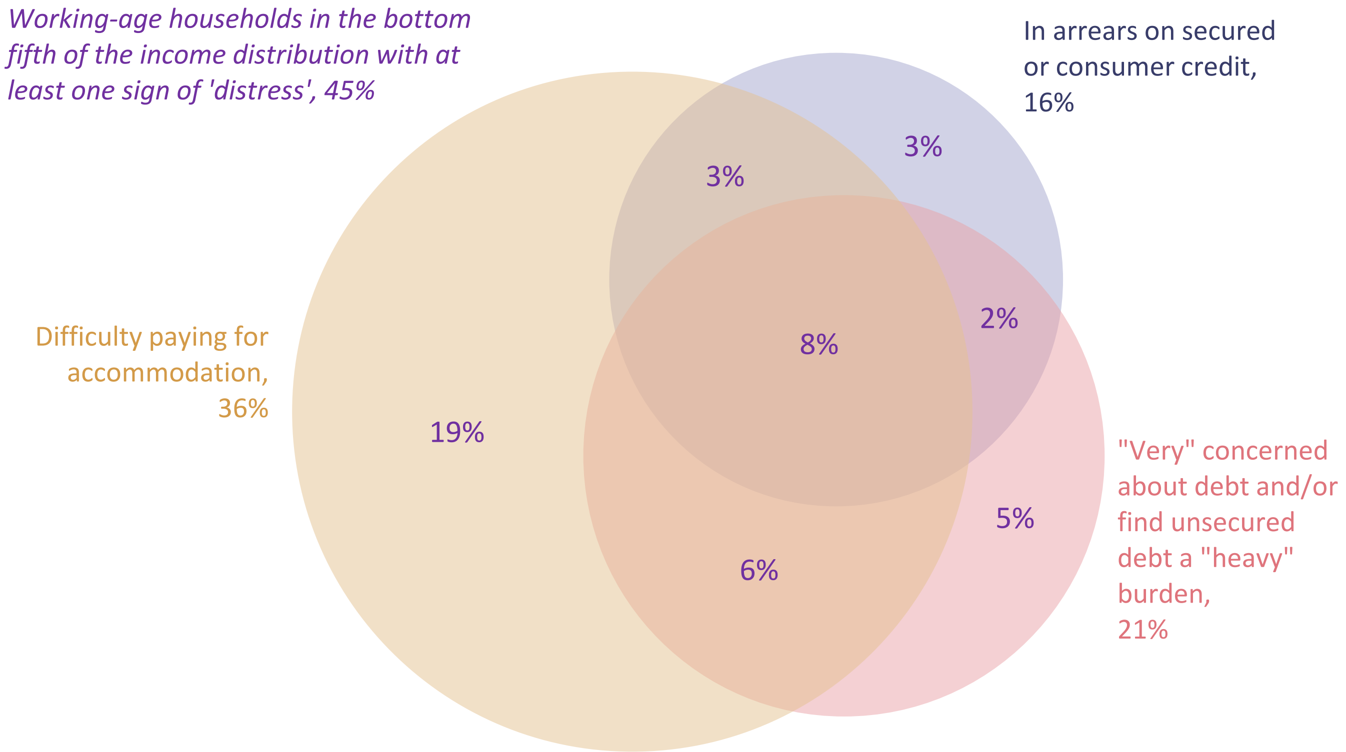


Notes: Figures exclude those not providing income information and those who declined to answer or answered 'don't know' to any of the 'distress' questions. Survey conducted September 2017. Chart not to scale.

Source: RF analysis of Bank of England, *NMG Survey 2017*

The picture deteriorates noticeably when we focus exclusively on the poorest fifth of working-age households. Figure 24 shows that, in this instance, 45 per cent of households reported at least one measure of debt 'distress'. One-in-five households (20 per cent) displayed two or more signs of 'distress', and 8 per cent registered on all three measures.

Figure 24: Overall debt 'distress' among the poorest fifth of working-age households: GB, 2017



Notes: Figures exclude those not providing income information and those who declined to answer or answered 'don't know' to any of the 'distress' questions. Survey conducted September 2017. Chart not to scale.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Lower income households also record higher levels of debt 'vulnerability'

Alongside measures that directly measure debt 'distress' in the here and now, we can use survey data to identify behaviours and debt positions that might act as warning signs of future 'distress' and consider how these vary across the income distribution.

Debt servicing ratios in particular tend to correlate closely with measures such as arrears and concern. Figure 25 makes this clear, by showing the proportion of households in each debt servicing ratio band that reported being in arrears at some point in the 12 months ending September 2017. The spike in arrears among those spending less than 5 per cent of their pre-tax income on secured and consumer credit repayments is likely to reflect temporary changes in circumstances – unexpected bills or falling labour income – that created problems at an earlier point in the year but which no longer apply. Notwithstanding this spike, it's clear that the likelihood of being in arrears rises sharply once the debt service ratio tops 30 per cent. Among those working-age households with a debt service ratio of 40 per cent or more, more than one-in-four (28 per cent) have been more than two months behind with repayments over the course of the year.

Figure 25: Relationship between debt servicing ratios and arrears: GB, 2017

Proportion of working-age households reporting being more than two months behind with any credit payments at any point in the past year, by total (secured and consumer) debt servicing ratio band

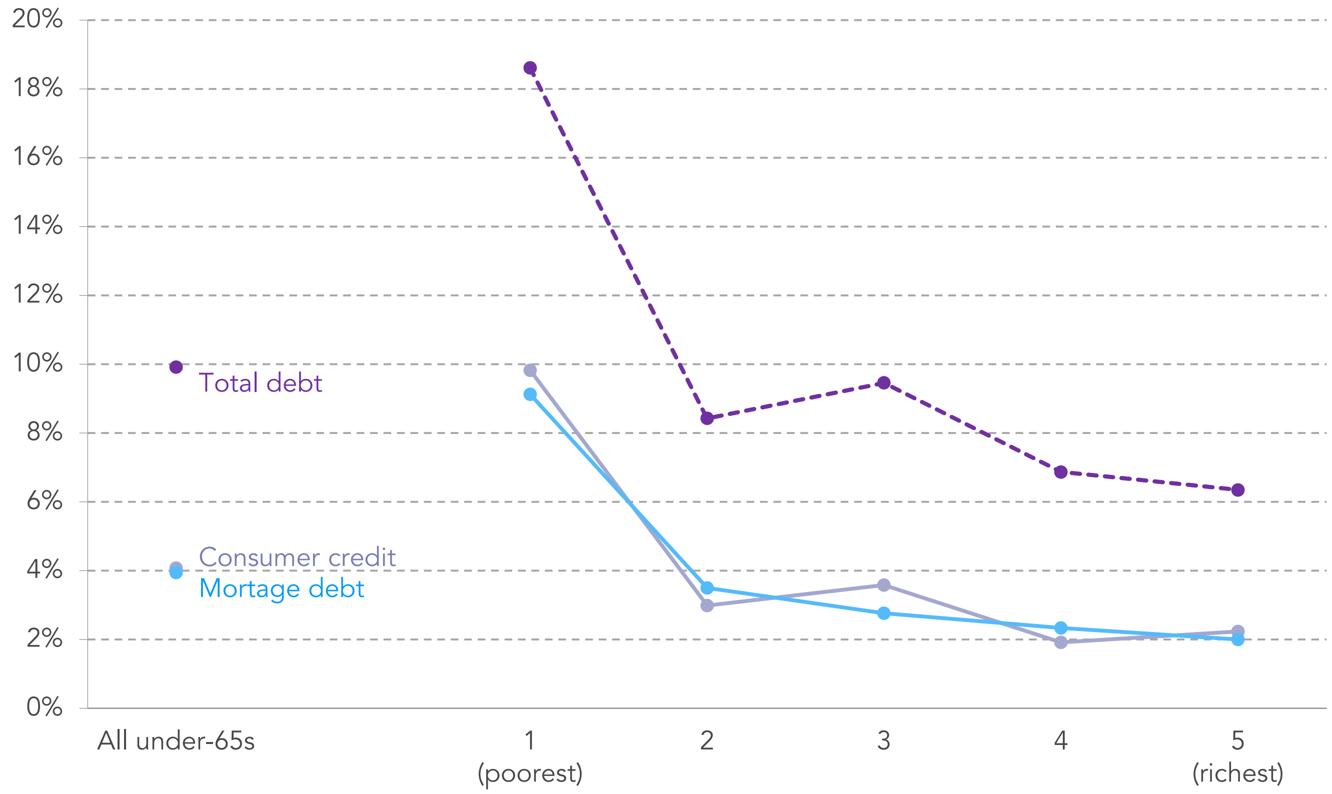
Notes: Repayments include mortgage principal. Results exclude those survey respondents who declined to answer or said they didn't know. Figures also exclude those not providing income information. Survey conducted September 2017. Chart not to scale.

Source: RF analysis of Bank of England, *NMG Survey 2017*

We can think of a debt servicing ratio of 30 per cent or higher as representing an 'at risk' flag for borrowers, then. With this in mind, it is important to consider how many households fall into this category. Figure 26 details the share of households in each working-age income quintile who recorded total debt servicing ratios of 30 per cent or higher in 2017. Overall, one-in-ten (10 per cent) working-age households were in this position in 2017, with 4 per cent 'at risk' in relation to consumer credit repayments alone and 4 per cent 'at risk' it in relation to mortgage payments alone.

Figure 26: High debt servicing ratios: GB, 2017

Proportion of working-age households spending more than 30 per cent of their pre-tax income on debt repayments, by equivalised household income quintile



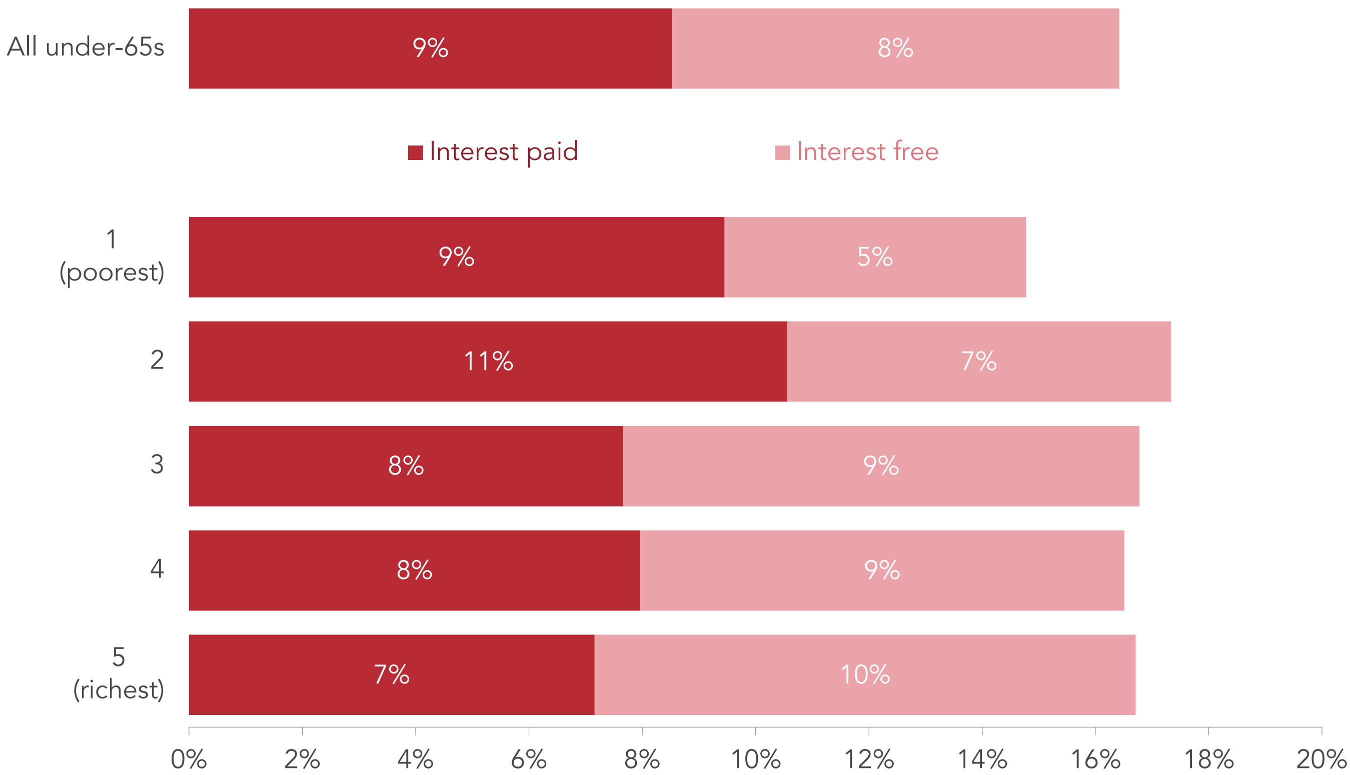
Notes: Repayments include mortgage principal. Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Credit card behaviour can also offer clues to borrower vulnerability. Figure 27 compares the proportion of working-age households across the income distribution reporting making no more than minimum repayments on their credit card in September 2017. It further shows whether the repayments are subject to interest or not. As discussed in Section 2, both approaches carry risk. Paying interest clearly has a direct cost to the card holder, even as the overall balance builds. Interest-free deals clearly offer a better deal for the card holder, but paying only the minimum might create problems in the medium-term if the household finds itself unable to pay-off or transfer the balance once interest *does* become payable.

Figure 27: Minimum credit card payments: GB, 2017

Proportion of working-age households paying the minimum balance (or less) on their most recent credit card bill, by equivalised household income quintile



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Overall 16 per cent of households reported paying no more than the minimum, split broadly evenly between those paying interest and those on interest-free deals. Unlike many of the other areas of debt vulnerability and 'distress' that we have considered, there is little variation in this pattern across the income distribution. Indeed, those in the poorest fifth of the working-age distribution recorded the lowest proportion making no more than minimum repayments. However, households in this income quintile are also less likely to pay their credit card off in full each month: just 5 per cent report taking such action, compared with 12 per cent in the richest fifth of households and 7 per cent overall.

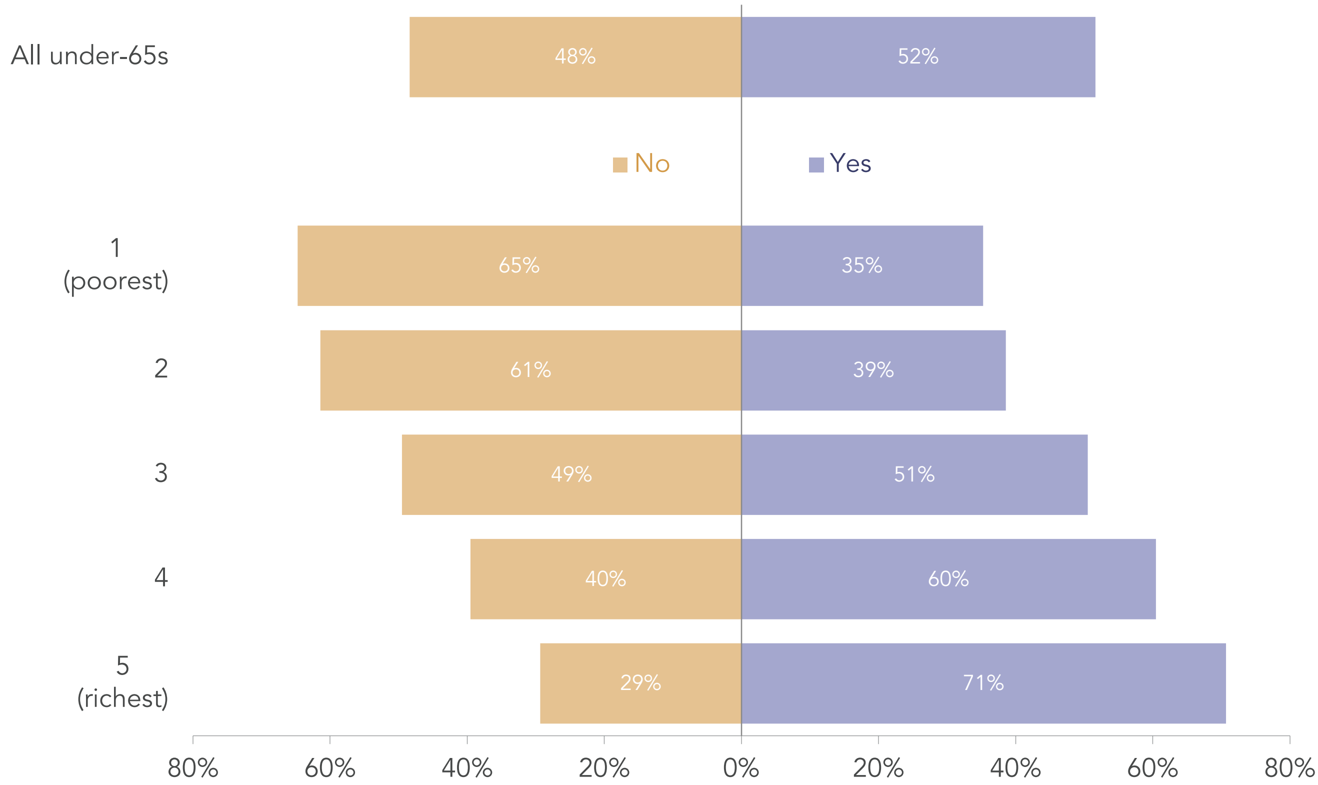
Of course, it is also worth remembering that roughly 60 per cent of working-age households don't report holding a credit card. Repeating the above exercise solely for those who *do* have a credit card, we find that 43 per cent of households report paying no more than the minimum – with 22 per cent subject to interest charges. Among cardholders in the bottom fifth of the distribution, those proportions rise to 47 per cent and 30 per cent respectively.

Another element worth considering in relation to households' use of credit and debt is their access to savings. While credit is often used for specific big-ticket items or for smoothing consumption, it can also be used to meet unforeseen payments. A lack of savings can therefore push families into debt following a change in circumstances.

Figure 28 details the perceived savings 'adequacy' of working-age households across the income distribution, measured in terms of their ability to deal with an "emergency". Overall it shows that working-age households were broadly evenly split in September 2017, with 52 per cent saying they *did* have sufficient savings and 48 per cent saying they *did not*. But this balance shifts significantly across the income distribution. Among the poorest fifth of working-age households, two-in-three (65 per cent) said they didn't have enough savings to deal with an emergency, compared with one-in-three (35 per cent) who thought they did. In contrast, 71 per cent of households in the richest fifth of the working-age income distribution felt satisfied with their ability to deal with an emergency, compared with 29 per cent who didn't.

Figure 28: Savings 'adequacy': GB, 2017

Perceptions of having enough savings to deal with an emergency, by equivalised working-age household income quintile



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

Given the tighter lending environment that exists post-crisis, we might also observe some dangers associated with a lack of *access* to credit. Those households who don't think they can secure the credit they would like face the option of either going without or seeking alternative – and potentially riskier – forms of finance. For example, data from the FCA shows that 3.1 million adults in the UK used an unauthorised overdraft facility in 2017 – either by exceeding their limit or never arranging one. Likewise, 3.6 million adults borrowed from friends or family in the year, with 0.1 million borrowing from unregistered lenders.[12]

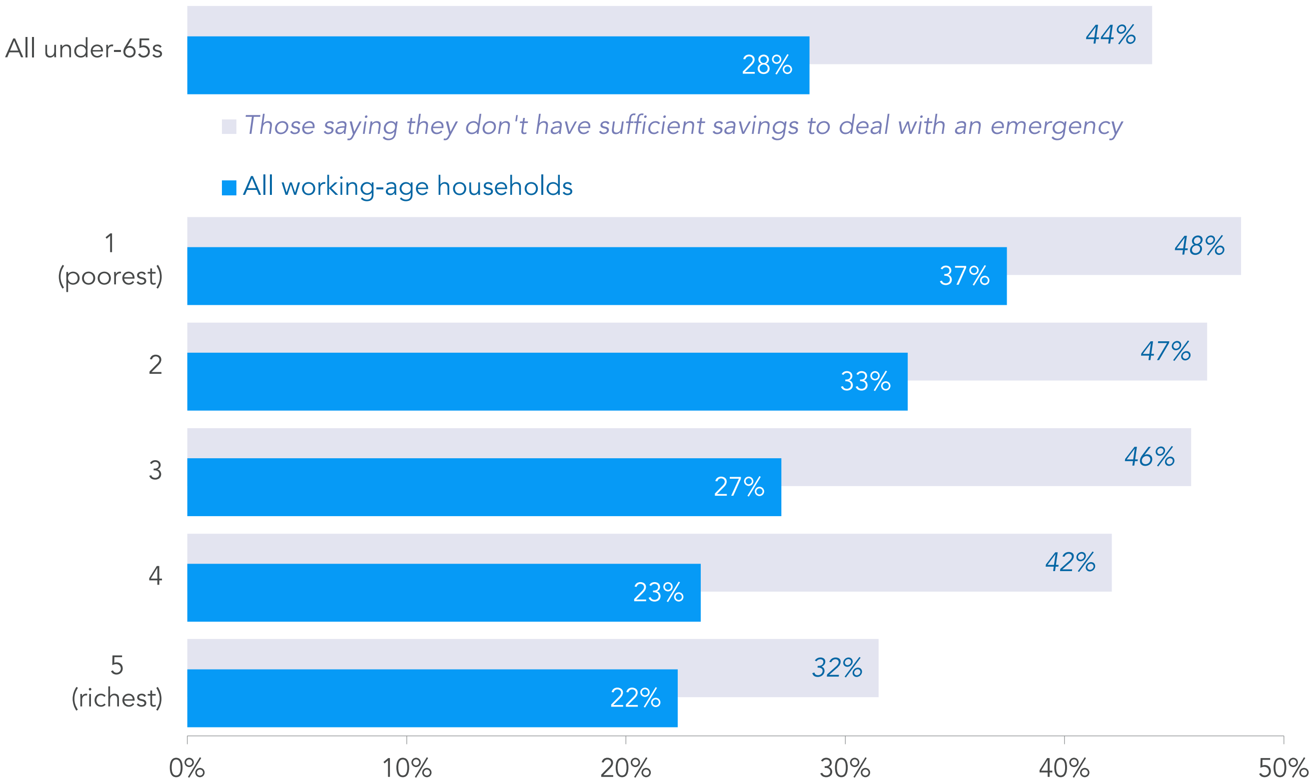
Figure 29 offers one measure of 'credit constraint' in 2017, detailing the proportion of working-age households saying they have been "put off" spending by concerns about not being able to access credit. Overall, 28 per cent of households reported such constraint. But this figure rose to 37 per

[12] FCA, Understanding the financial lives of adults: Findings from the FCA's Financial Lives Survey 2017, October 2017

cent among those in the poorest fifth of working-age households, and dropped to 22 per cent among the richest fifth.

Figure 29: Credit 'constraint': GB, 2017

Working-age households saying they have been "put off" spending by concerns about not being able to access credit, by equivalised working-age household income quintile



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. 'All under-65s' figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

The chart also shows the level of credit constraint within each income quintile for the subset of households who also say they have insufficient savings to deal with an emergency. Constraint is higher at every point of the distribution for this sub-group, suggesting that its members are particularly vulnerable to shocks. Overall 44 per cent of households who say they don't have sufficient savings also experience credit constraint, rising to nearly half (48 per cent) among those with insufficient savings in the poorest fifth of the distribution.

Figure 30 sets out the prevalence of credit constraint among working-age households by their level of debt servicing. It shows that households spending more of their pre-tax income on debt repayments are more likely to have answered that they have been "put off" spending by concerns about credit access, with a particular spike among those with debt servicing ratios of 40 per cent and over. The implication is that already-stretched households recognise that obtaining extra credit will be difficult – but it raises questions about how such households respond to this constraint if their finances become any more squeezed.

Figure 30: Credit constraint and debt servicing: GB, 2017

Proportion of working-age households saying they have been "put off" spending by concerns about not being able to access credit, by debt servicing ratio band

Notes: Results exclude those survey respondents who declined to answer or said they didn't know. Figures exclude those not providing income information. Survey conducted September 2017.

Source: RF analysis of Bank of England, *NMG Survey 2017*

By focusing on the distribution of debt and 'distress', we have shown that much of credit 'surge' of the last year or so has been driven by higher income households. While this may offer some reassurance as to the sustainability of the recent *flow* of credit however, it is clear that significant exposure and vulnerability remains in place in relation to the existing *stock* of debt. This applies across the income distribution, but is especially acute among those with the lowest incomes.

For all households with debt, the key question is what does the future hold? With interest rates expected to rise over the coming years, there is at least the potential for some of today's stock of debt to create problems for households. We consider how these interest rate rises might affect different households in the next section.

Section 4

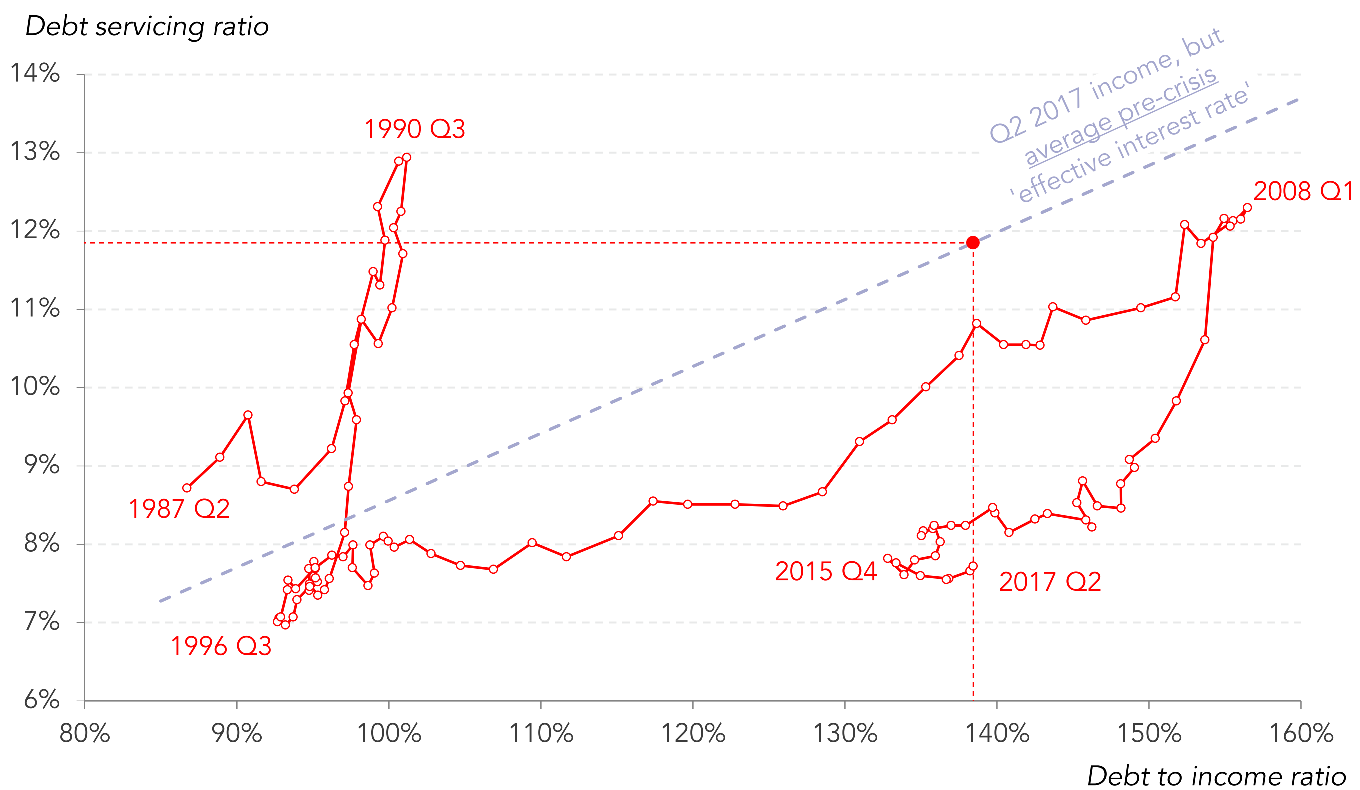
What happens when rates rise?

We have seen in Section 3 that – while it is higher income households that have helped to drive the strong consumer credit growth of the last year or so – debt 'distress' is most acute among lower income households. But there are apparent vulnerabilities in many parts of the distribution and the key question for many households – and potentially for the economy more generally – is what happens next? The Monetary Policy Committee has indicated that it expects to raise interest rates several times over the coming years. In this section we consider what that means for indebted households, highlighting the importance of differing debt profiles, underlying levels of resilience and opportunities for refinancing. In all of these aspects, it is lower income borrowers who again appear most exposed.

Debt servicing costs are sensitive to even modest movements in interest rates

Figure 31 details the evolution of the relationship between the debt-to-income ratio and debt servicing ratio in the period since 1987.

Figure 31: Debt servicing, debt-to-income and effective interest rates: UK



Notes: Effective interest rate is calculated by dividing total repayments (including mortgage principal payments) by total outstanding debt.

Source: RF modelling using Bank of England data

It shows that a relatively modest increase in the debt-to-income ratio between Q2 1987 and Q3 1990 (from 86.7 per cent to 101.2 per cent) produced a sharp increase in the debt servicing ratio (from 8.7 per cent to 12.9 per cent). The debt servicing ratio then fell to a low of 7 per cent in Q3 1996, despite the debt-to-income ratio only falling back to 93.2 per cent. As the debt-to-income ratio peaked at 156.5 per cent in Q1 2008, the debt servicing ratio became similarly elevated (though it remained below its 1990 peak). Post financial crisis, both the debt-to-income ratio and the debt servicing ratio dropped – standing at 132.8 per cent and 7.8 per cent respectively in Q4 2015. The debt servicing ratio has dipped further since then, despite the debt-to-income ratio climbing back to 138.4 per cent by Q2 2017.

These differing outcomes have of course been created by movements in interest rates. The key measure is the 'effective interest rate', which captures the total repayments made on a given amount of outstanding debt. This is more than just the movement in interest rates themselves, because it depends in part on compositional factors within the credit market too. Sharp upwards movements in Figure 31 are associated with increases in the effective interest rate, whereas sharp downward movements are associated with reductions in the effective interest rate.

By way of considering sensitivity to movements in interest rates, the chart also shows the debt servicing ratios that would apply in the scenario where today's household income level is fixed but the prevailing level of the effective interest rate matches the average effective interest rate recorded in the period before the financial crisis. In this scenario, the Q2 2017 debt-to-income ratio would be equivalent to a debt servicing ratio of 11.8 per cent – only marginally lower than the 1990 highs. The implication is that even a return to relative 'normal' on interest rates would cause a significant spike in debt servicing ratios: anything beyond this and we'd be in unprecedented territory.

As we discuss below, most expectations are that we don't even return to 'normal' over the coming years, with rates remaining low by historical standards for some time to come. But there is no certainty of course. And before turning to consider what *might* happen in the central case, it is worth thinking through the impact of something more dramatic.

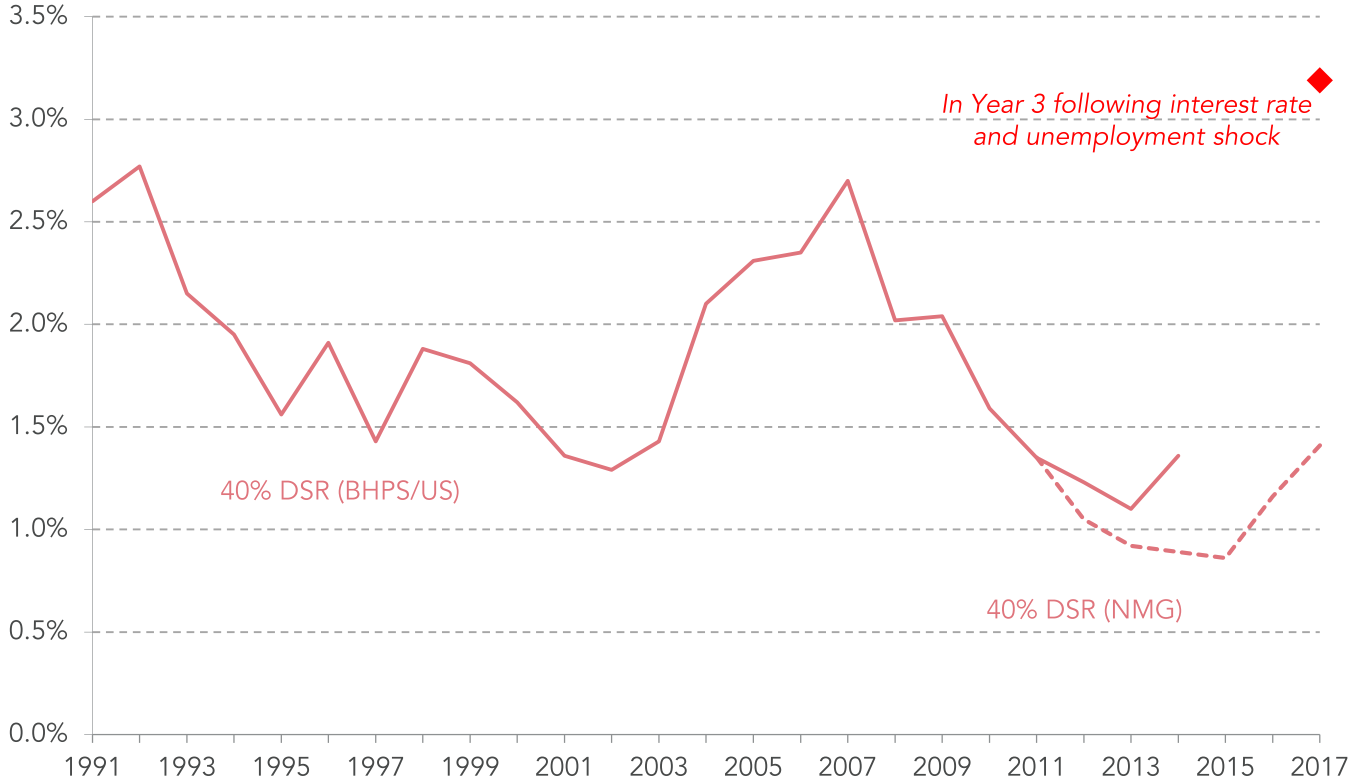
The Bank of England does this by modelling the fall-out from a potential scenario in which an increase in the base rate to 4 per cent (still below historical norms) is accompanied by falling global and domestic GDP, sharply falling house prices and a spike in unemployment.[13] Reassuringly – for the first time since the Bank started running such 'stress tests' in 2014 – the 2017 study suggested that no bank needed to strengthen its capital position to deal with the prospect of such severe economic deterioration. But that doesn't mean that the scenario modelling didn't generate sizeable financial ramifications – especially for individual households.

Figure 32 re-presents the historical mortgage debt servicing ratios set out in Figure 14 in Section 2, but now includes the Bank estimate for the proportion of households with mortgage servicing ratios above 40 per cent that would exist under its stress test scenario. In Year 3 of the five year simulation, the Bank modelling suggests this proportion has jumped to 3.2 per cent – well above anything recorded at any previous time.

[13] Bank of England, *Stress testing the UK banking system: 2017 results*, November 2017

Figure 32: Mortgage debt servicing ratios under the Bank of England's 2017 stress test scenario: GB

Proportion of households spending more than 40 per cent of their pre-tax income on mortgage repayments



Notes: 'Effective interest rate is calculated by dividing total repayments (including mortgage principal payments) by total outstanding debt.

Source: RF modelling using Bank of England data

Alongside this picture on mortgages, the Bank's stress test also identified a particular danger in relation to consumer credit. While only accounting for 7 per cent of the starting balances of UK loans among the institutions covered by the stress test, consumer credit accounted for 40 per cent of the impairments arising over the five years of the Bank's scenario. In the first three years of the scenario, the UK banking system was adjudged to incur credit losses on UK consumer loans of around £30 billion – roughly £10 billion more than had been calculated under the 2016 stress test.

So, while households and lenders alike appear less stretched than was the case going into the financial crisis, there is at least some cause to worry about how things might evolve in the coming years. In particular, given the evidence set out in Section 3, we might be concerned especially with how interest rate rises will play out across the income distribution.

An overnight increase in interest rates would have especially significant consequences for lower income mortgagors

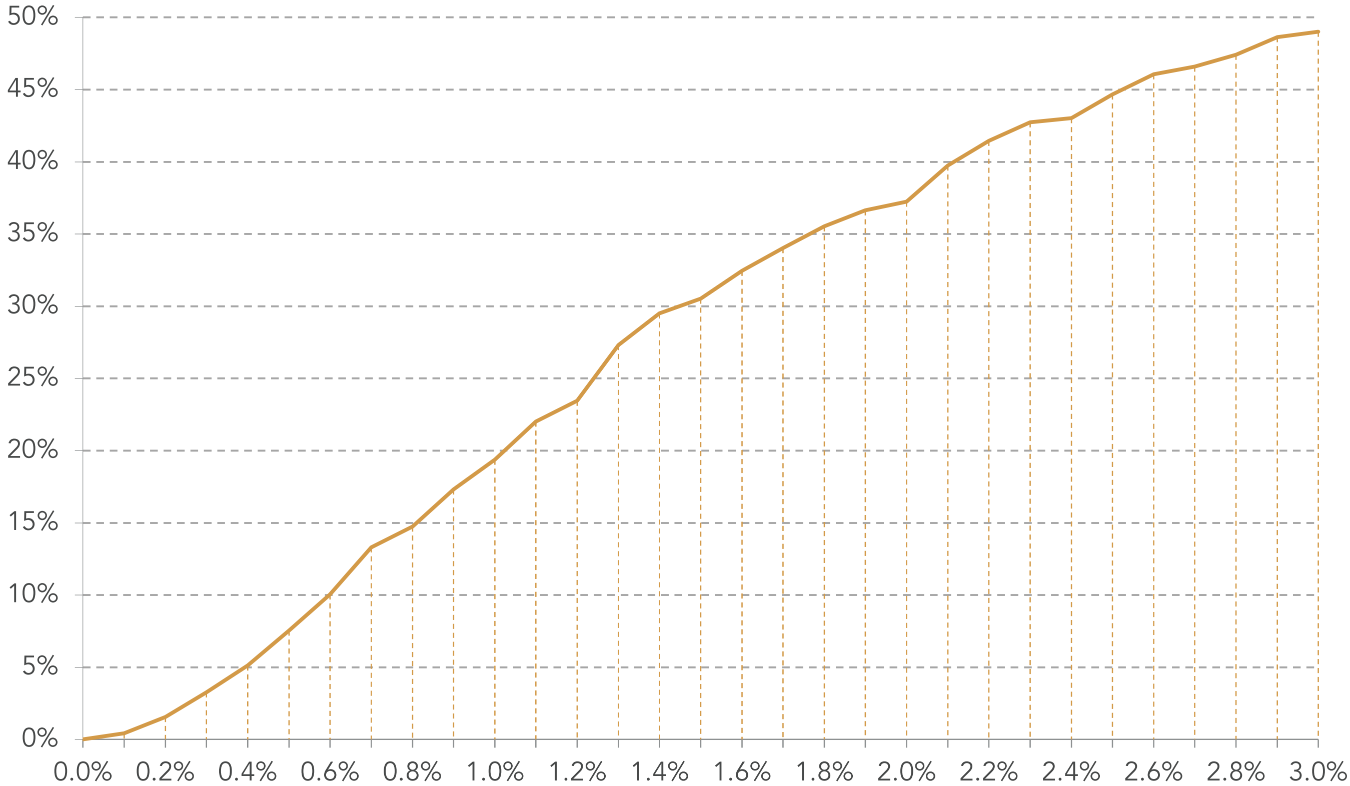
The Bank's stress test is of course an extreme scenario, designed specifically to exam the resilience of the UK's banking industry in the face of a severe economic downturn. A more limited – and less dramatic – scenario is one in which the base rate rises in isolation from any other economic shocks.

Even assessing how this more straightforward change would develop is extremely difficult given the complex transmission mechanisms by which rate rises feed through to the real economy. Alongside direct effects on borrowing – and savings – rates, a change in the base rate would have significant macroeconomic and behavioural effects. For the purposes of illustrating how the impact might be spread across households however, we can establish a simple model in which we apply an overnight increase in mortgage rates in isolation. This is necessarily simplified but, given that mortgages make up 90 per cent of the total stock of household debt, it is useful nonetheless.

We start by presenting the results of similar modelling of this sort undertaken by the Bank of England using data from the *NMG survey*. Respondents were asked in September 2017 (before the November increase in the base rate) to assess how much their monthly mortgage payments could rise before they would need to take action – such as cutting spending, working longer hours or changing mortgage – and Bank analysts then converted these cash figures into equivalent interest rate changes based on each respondent's particular circumstances. The results are set out in Figure 33.

Figure 33: Mortgagor response to rate rises: GB, 2017

Proportion of mortgagor households needing to 'take action' in response to a given percentage point rise in their interest rate



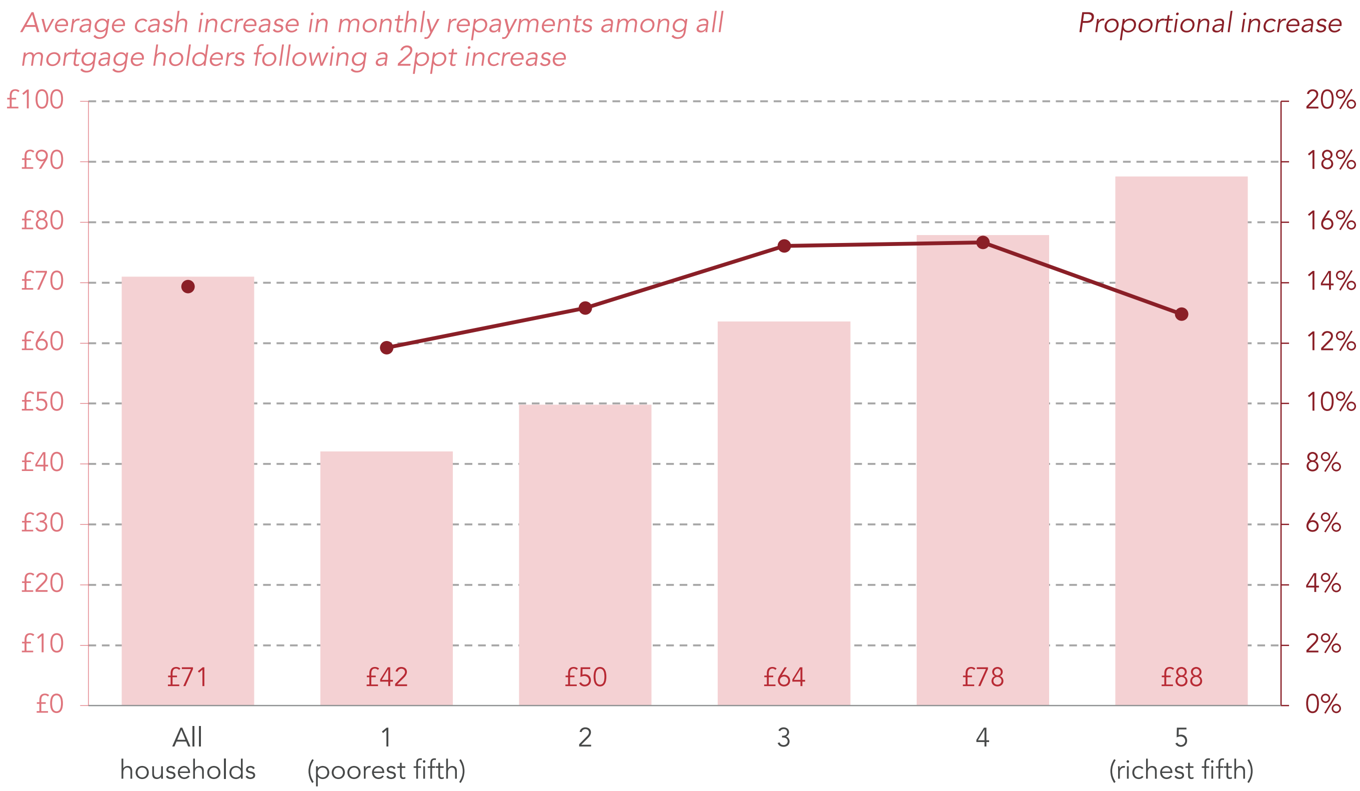
Notes: Repayments include mortgage principal, and are measured as a share of pre-tax income. Data is calculated using *British Household Panel Survey* (1991–2008), *Understanding Society* (2009–13), and the *NMG Consulting survey* (2011–17).

Source: Bank of England, "The financial position of British households: evidence from the 2017 NMG Consulting survey", *Quarterly Bulletin 2017 Q4*, December 2018, Chart 2

It shows that a 0.25 percentage point increase in mortgage rates would create a need for action among just 2.4 per cent of mortgagors. Roughly one-in-ten mortgagors would be affected by a 0.6 percentage point increase and one-in-four would need to act if rates rose by around 1.25 percentage points. Affecting half of all mortgagors would require a rate rise of more than 3 percentage points.

Clearly the effect would vary across different households however. In Figure 34 we use our model to consider the cash and proportional impact of an immediate, and arbitrary, 2 percentage point increase in mortgage rates across the income distribution[14] – which the Bank's survey implies would be sufficient to cause 37 per cent of mortgagor households to "take action". In doing so, we make use of the specific interest rate, term and current repayment details provided in the *NMG survey*. Because the fieldwork was conducted in September 2017, this means we are modelling the impact of changes from a baseline in which the base rate is still at 0.25 per cent.

Figure 34: Average mortgage repayment increase under RF rate rise scenario, by income quintile: GB, 2017



Notes: Figures exclude those not providing income information. Survey conducted September 2017.

Source: RF modelling using Bank of England, *NMG Survey 2017*

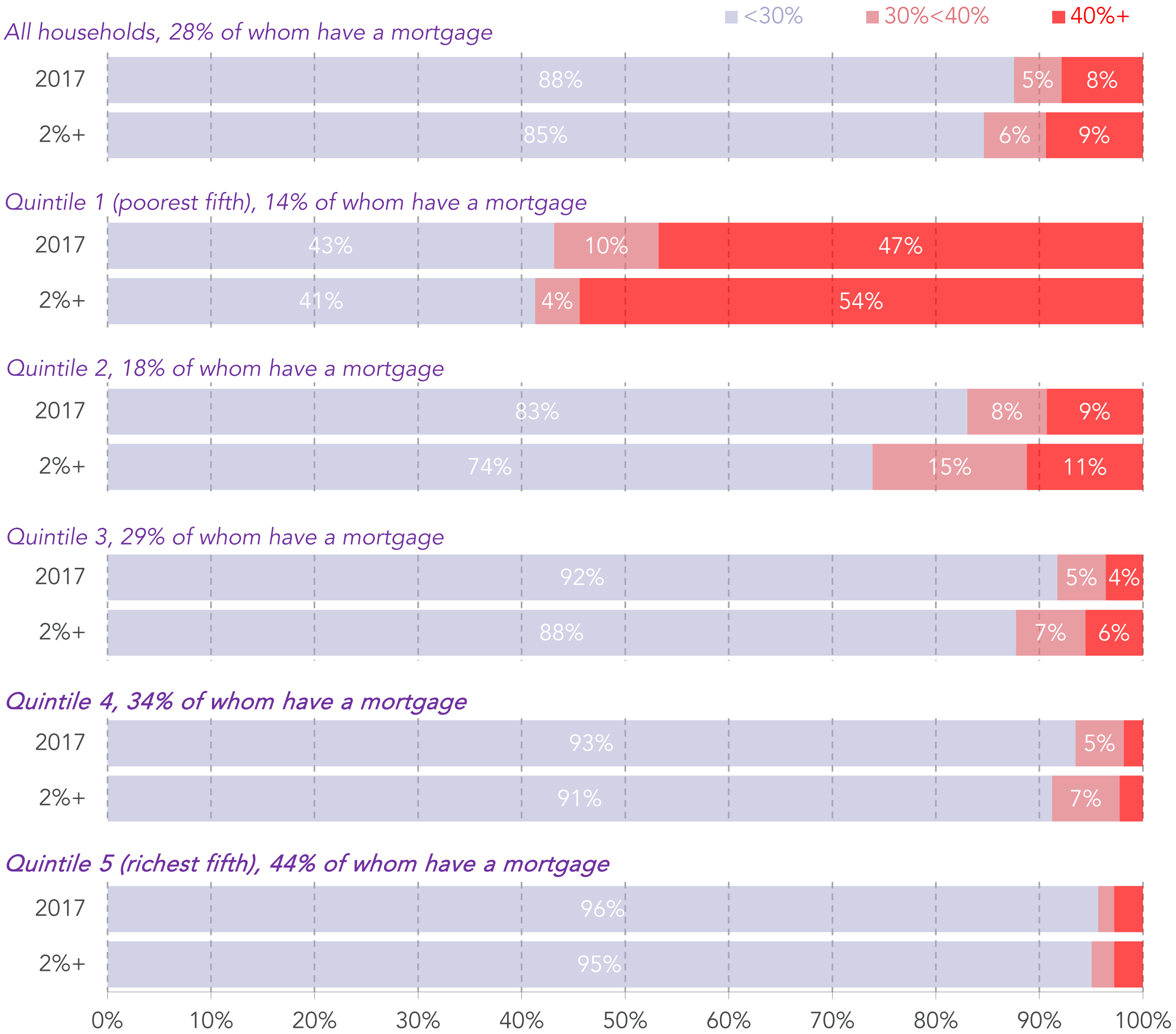
Overall, an immediate 2 percentage point increase in mortgage rates results in an average increase in monthly mortgage payments among the 28 per cent of British households holding a mortgage of £71, which is 13.9 per cent of the existing average payment. Unsurprisingly, the cash effect grows with income – reflecting the larger balances held by higher income mortgagors. In proportional terms, however, the effect is broadly flat across the distribution.

This is proportional to existing payments though. What really matters for the affordability of repayments is how these figures relate to the *income* of borrowers. Figure 35 tests this by setting out how an overnight 2 percentage point increase in mortgage rates would affect the distribution of mortgagors across debt servicing ratio bands, relative to the September 2017 baseline established using the *NMG survey*.

[14] All households, rather than just working-age.

Figure 35: Change in mortgagor debt servicing ratios under RF rate rise scenario: GB, 2017

Proportion of mortgagor households by mortgage debt servicing ratio band in baseline and following an immediate 2 percentage point increase in all mortgage rates



Notes: Figures exclude those not providing income information. Survey conducted September 2017. Baseline proportions in each debt service ratio differ slightly from those shown in Figure 14 due to the removal of some records for which sufficient data is unavailable for modelling purposes.

Source: RF modelling using Bank of England, *NMG Survey 2017*

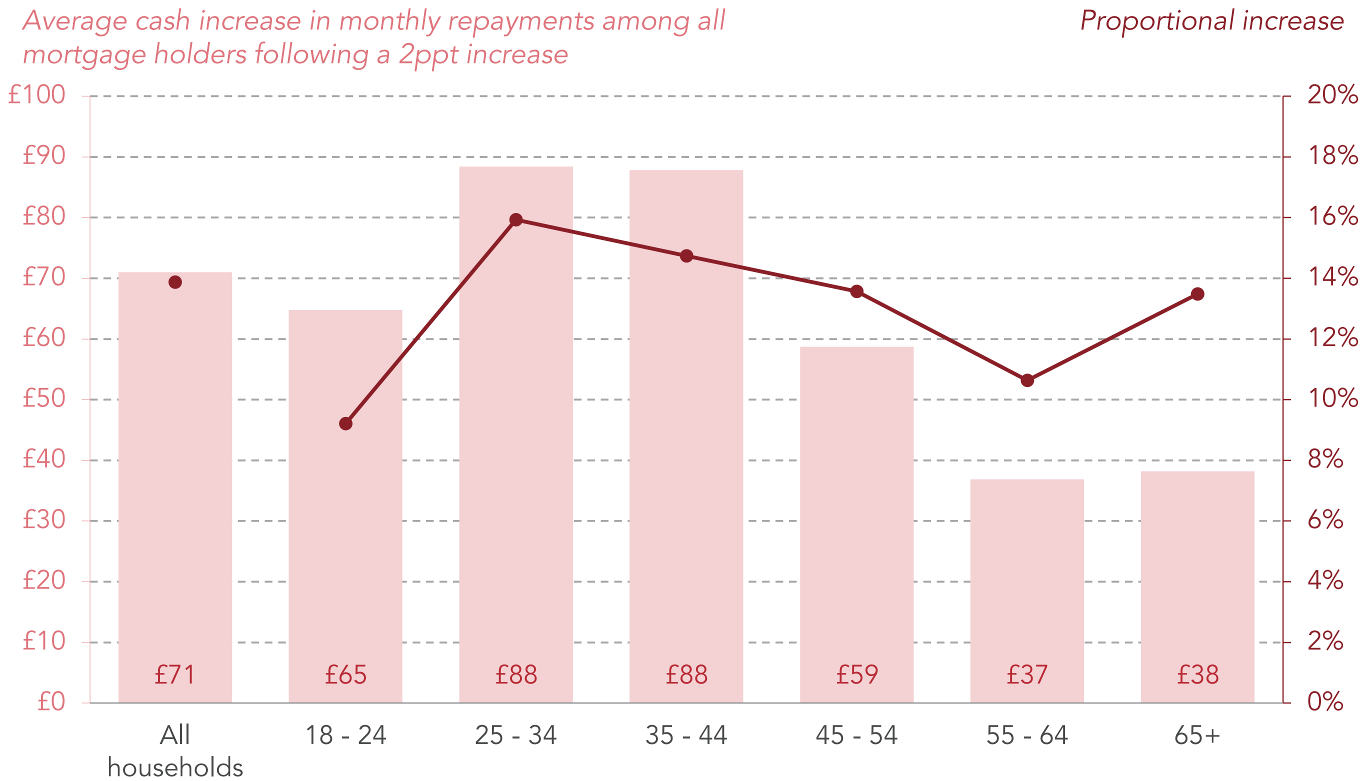
Overall, the interest rate increase lifts the proportion with ratios of 30 per cent or more – our 'at risk' threshold from Section 3 – from 12 per cent to 15 per cent. That's equivalent to roughly 200,000 extra households breaching a threshold above which we know repayment difficulties sharply rise, and would leave 1.1 million households in this position altogether. The proportion of mortgagors with servicing ratios of 40 per cent and higher increases from 8 per cent to 9 per cent – equivalent to just over 100,000 extra households.

It's the variation by income quintile that really stands out however. Among the poorest fifth of households, the proportion of mortgagors with servicing ratios of 40 per cent or higher jumps from an already-huge 47 per cent to 54 per cent; with the proportion with ratios of 30 per cent or greater rising from 57 per cent to 59 per cent. In contrast, the proportion of mortgagors in the richest fifth of households recording a mortgage debt servicing ratio of 40 per cent or higher remains broadly unchanged (at 3 per cent) under the rate-rise scenario.

These proportions refer to the population of mortgagor households only, and there are more mortgagors in higher income bands of course. As such, the difference across the income distribution is less stark when we consider the overall proportion of households recording mortgage debt servicing ratios of 30 per cent or 40 per cent and higher. Nonetheless, prevalence remains highest in lower income quintiles. For example, the proportion of households with ratios above 40 per cent in the poorest fifth of households increases under our scenario from 7 per cent to 8 per cent. In contrast, the proportion of all households in the richest fifth who record mortgage debt servicing ratios above 40 per cent remains fixed at 1 per cent.

Returning to the cash impact of a rate rise, we can repeat the same modelling set out above by age. Figure 36 shows that an immediate 2 percentage point increase in mortgage rates would impact most on mortgagors aged 25-44. For example, among mortgagor households headed by someone aged 25-34, monthly payments would rise by an average of £88 – or 16 per cent of the current repayment.

Figure 36: Average mortgage repayment increase under RF rate rise scenario, by age: GB, 2017

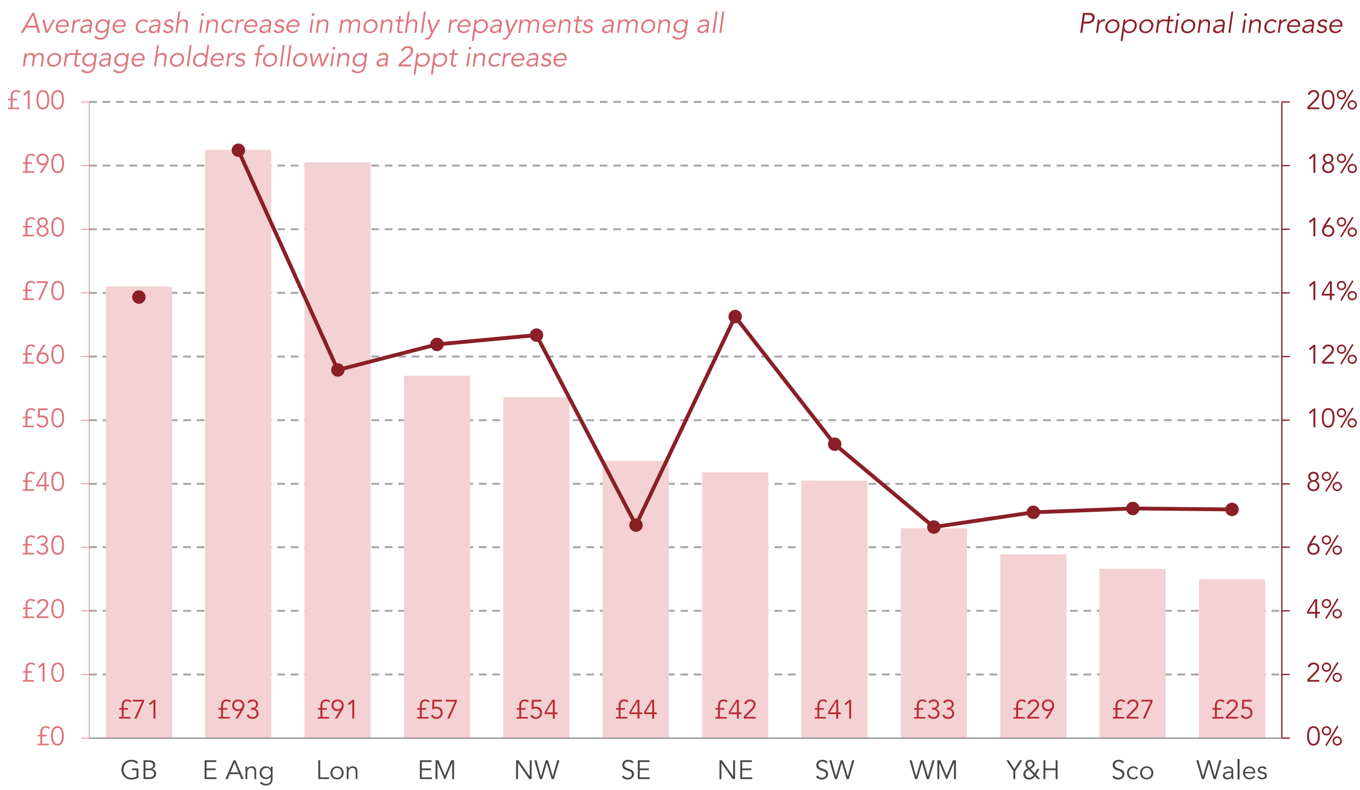


Notes: Figures exclude those not providing income information. Survey conducted September 2017.

Source: RF modelling using Bank of England, *NMG Survey 2017*

Turning instead to location, Figure 37 considers the effect of a 2 percentage point increase in mortgage rates by region and country. In cash terms, the effect is significantly larger in East Anglia and Greater London than in other parts of the country – more than 3.5 times the size of the increase in payments identified in Wales. This pattern of course reflects the higher cost of housing, and therefore mortgage debt, in these areas. The fact that the proportional increase is much smaller in London than in East Anglia reflects the composition and size of existing mortgage payments in the capital.

Figure 37: Average mortgage repayment increase under RF rate rise scenario, by location: GB, 2017



Notes: Figures exclude those not providing income information. Survey conducted September 2017.

Source: RF modelling using Bank of England, *NMG Survey 2017*

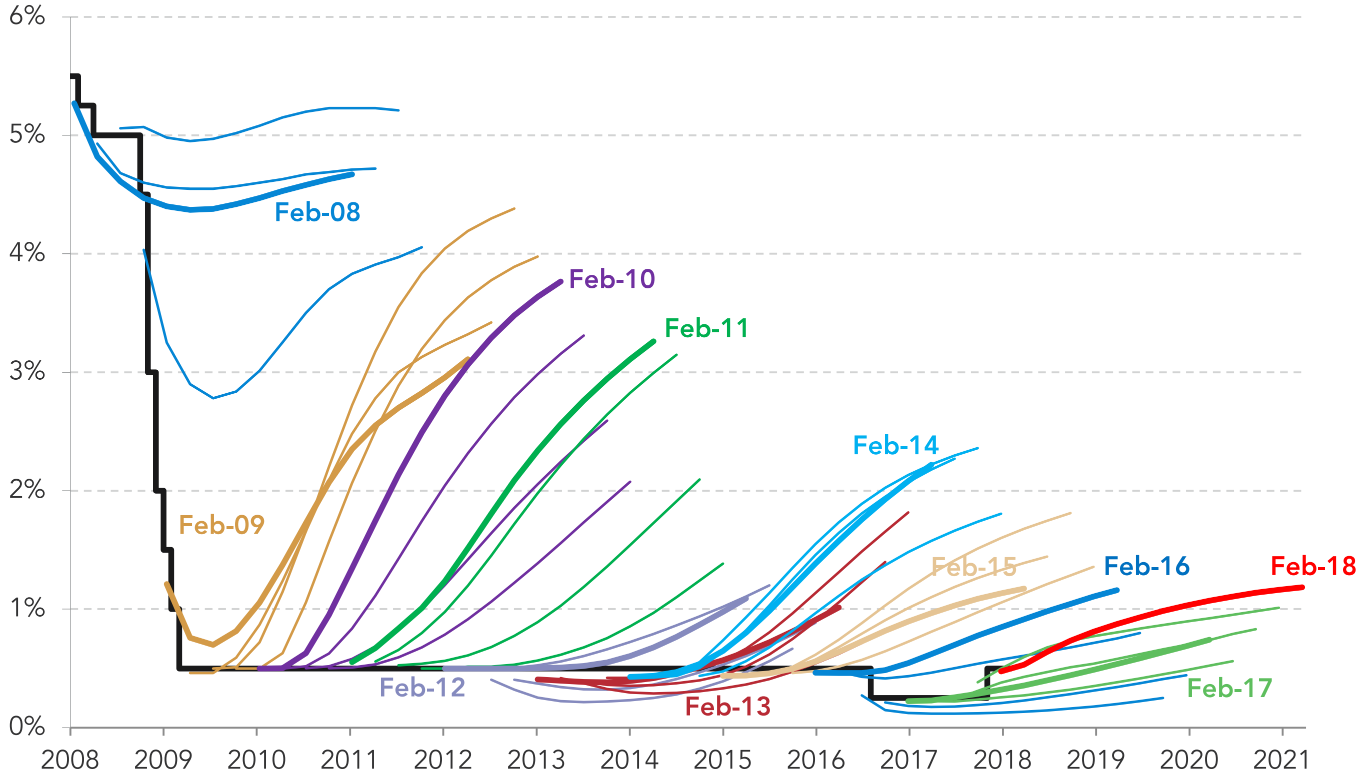
In practice, near-term rate rises are likely to be gradual and of limited direct impact on mortgage costs

These are illustrative thought experiments only of course. They are limited in scope – covering direct mortgage effects only – and static in terms of assuming no change in income or other metrics. In practice, interest rates are not expected to jump back to historical levels in the near- or even the medium-term.

Figure 38 sets out the conditioning path for interest rates used by the Bank of England in its projections for the future path of the economy, and is based on market expectations. It shows that the base rate is expected to rise to just 1.2 per cent by 2021 – well below previous norms and less than 1 percentage point higher than the 0.25 per cent base rate that was in place in the baseline used in our modelling above.

Figure 38: Bank of England base rate outturn and market expectations

Successive market-based conditioning paths for Bank Rate



Source: Bank of England, *Inflation Report*, February 2018

It is worth noting that the market is frequently wrong, however. As Figure 38 makes clear, the market has consistently over-estimated the future level of rates over the past decade. But experience during past tightening cycles suggests that this often switches to under-estimation once rates start to rise. And the Bank's latest *Inflation Report* suggests that the MPC is now expecting to lift rates more quickly than previously thought, stating:

> *"The Committee judges that, were the economy to evolve broadly in line with the February Inflation Report projections, monetary policy would need to be tightened somewhat earlier and by a somewhat greater extent over the forecast period than anticipated at the time of the November Report, in order to return inflation sustainably to the target."*[15]

Nevertheless, there is nothing in this latest assessment to suggest that we can expect to see rates returning to historical levels in the medium-term. Indeed, the report re-states the MPC's view that: "any future increases in Bank Rate are expected to be at a gradual pace and to a limited extent."[16]

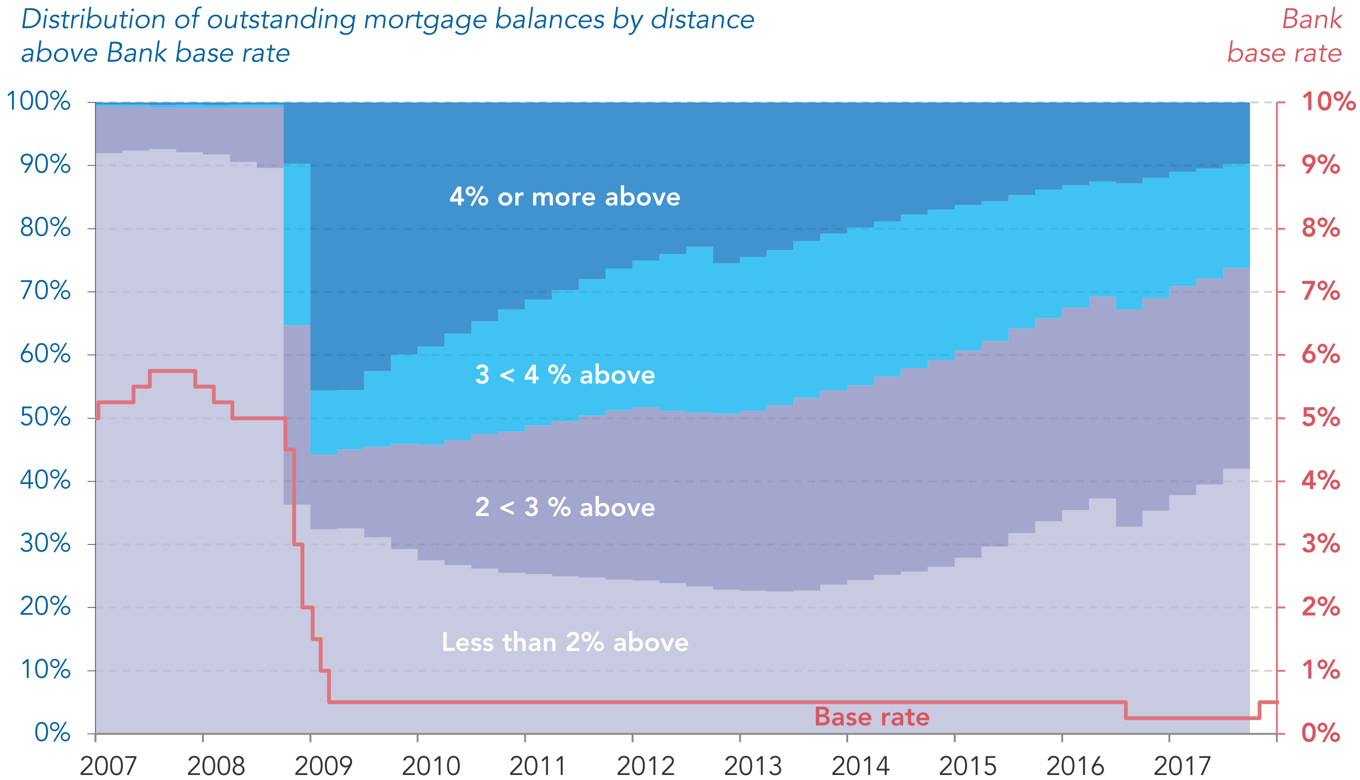
And even if rates *do* rise a little more quickly than previously thought, we should remember that any given increase in the base rate is likely to take longer still to feed through to the mortgage costs paid by households. In part that's because we can expect lenders to absorb some of the increase by reducing spreads between the base rate and lending rates. By way of example, Figure 39 sets out the evolution of spreads on mortgages since the start of the financial crisis. Prior to the slashing

[15] Bank of England, *Inflation Report*, February 2018

[16] Bank of England, *Inflation Report*, February 2018

of the base rate towards the end of 2008, roughly 90 per cent of mortgage balances were held on deals within 2 percentage points of the Bank's rate and almost no mortgages were priced at more than 3 percentage points above.

Figure 39: Mortgage spreads: UK



Source: FCA, *Mortgage Lenders and Administration Statistics*

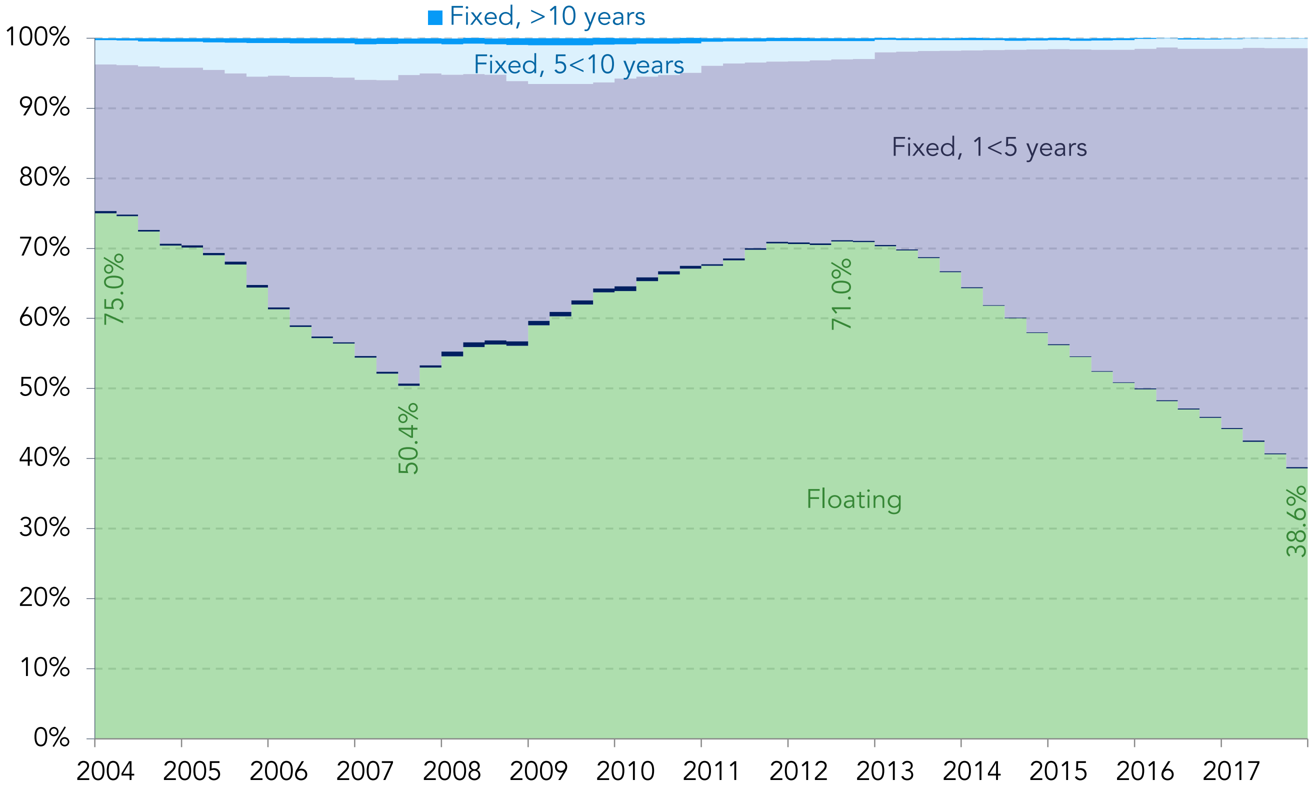
But that picture quickly changed as the base rate fell, with a combination of lender reluctance and inability meaning that rate cuts did not get passed on in full. By 2013, just 23 per cent of mortgage balances were less than 2 percentage points above the base rate and 49 per cent were 3 percentage points or more higher. Spreads have narrowed since then, helped by arrival of QE and by the provision of lower cost funds for lenders under the Funding for Lending Scheme that was introduced in 2012. But, even by Q3 2017, just 42 per cent of mortgage balances were within 2 percentage points. As a result, faced with a rising base rate and keen to remain competitive in the mortgage market, lenders are likely to let spreads take some of the strain in the coming years.

Base rate rises will also take time to feed through to mortgagors because a majority of loans are held on fixed rates today. Indeed, because some of the fixed rate mortgage deals currently coming to maturity were established when average rates were higher than they are today, we might expect some mortgagors to experience a *reduction* in their borrowing costs in the near-term rather than an increase.

Figure 40 details how the share of mortgages held on fixed and floating rate deals has shifted in the period since 2004. It shows that the share of mortgage balances held on floating rates has fallen from 75 per cent at the start of 2004 – and from a post-crisis peak of 71 per cent in Q3 2012 – to just 38.6 per cent in Q3 2017.

Figure 40: Fixed and floating mortgage ownership: UK

Distribution of balance of secured loans by whether fixed or floating



Source: Bank of England

Given that we can expect incomes to rise (in nominal terms at least) while we wait for rate rises to feed through to mortgages and other loans (as well as revenues from savings), it looks unlikely that base rate rises broadly in line with current expectations will cause any large-scale difficulties across households in the near-term.[17]

What's clear from our modelling however, is that even modest rate movements will generate potentially sizeable losses for *some* households. It is therefore worth considering which households might be most immediately affected, and which might struggle to insulate themselves from any future rate rises.

Increasing numbers of mortgagors are likely to be refinancing in the coming months, but some 'mortgage prisoners' might struggle to access the best deals

Looking again at Figure 40, it is worth noting that most of the non-floating element of the mortgage book is fixed for one to five years – implying that a significant number of borrowers will be needing to re-mortgage during a period of rate rises.

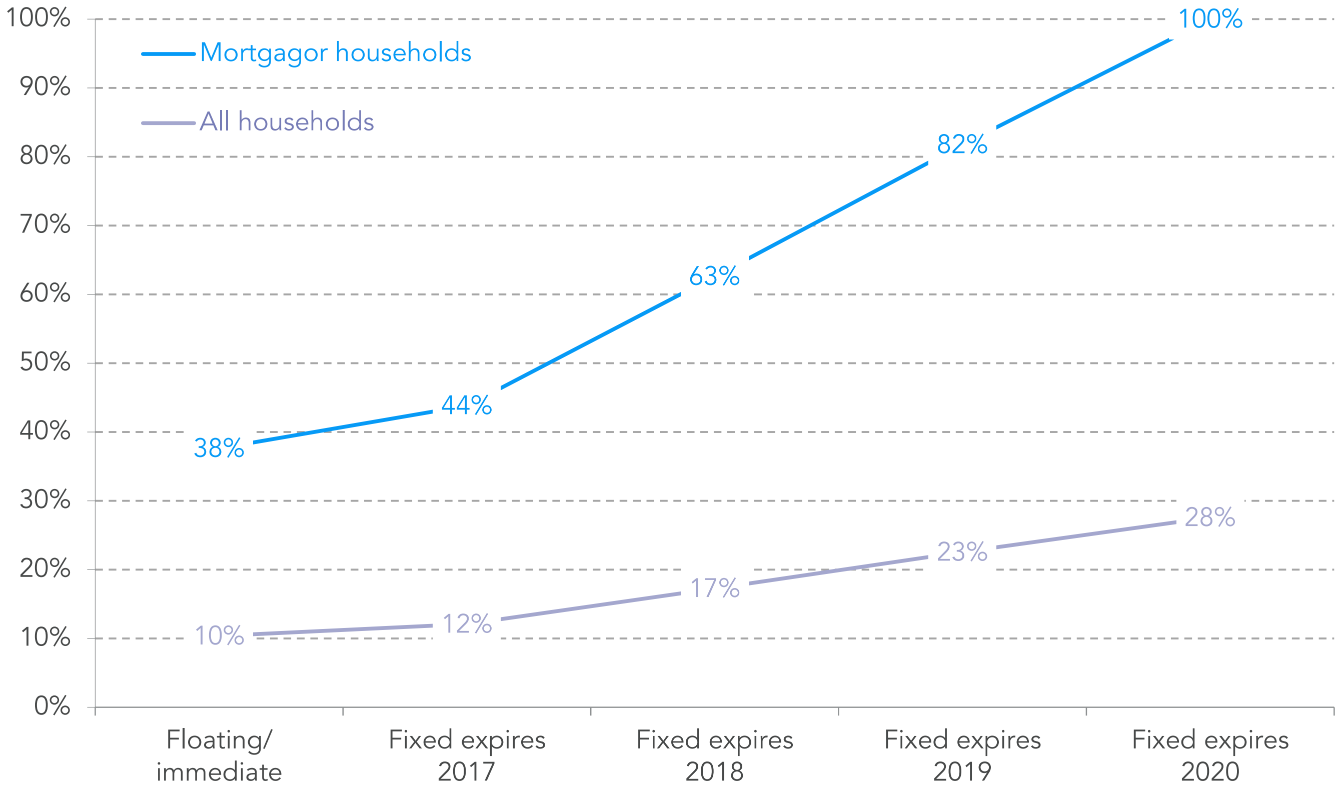
Figure 41 provides a sense of how this might play out. It shows the cumulative proportion of households whose mortgage deals expire over the coming years. The top line shows the proportion among just those households with mortgages, indicating that close to two-thirds (63 per cent) of mortgagors will be affected by the end of this year and four-fifths (82 per cent) by the end of 2019.

[17] In practice, the MPC would of course consider the scale of any such problems in making its interest rate decisions in any case.

As such, while there are good reasons for supposing that the base rate rise of November 2017 has had very little effect on most people's mortgage repayments to date, there's every chance that the *next* one or two rate rises will affect significant numbers of households.

Figure 41: The timing of mortgage rate changes: GB, 2017

Cumulative proportion of households/mortgagor households likely to be affected by rising mortgage rates by date



Notes: Results exclude those survey respondents who declined to answer or said they didn't know. Figures exclude those not providing income information. Survey conducted September 2017.

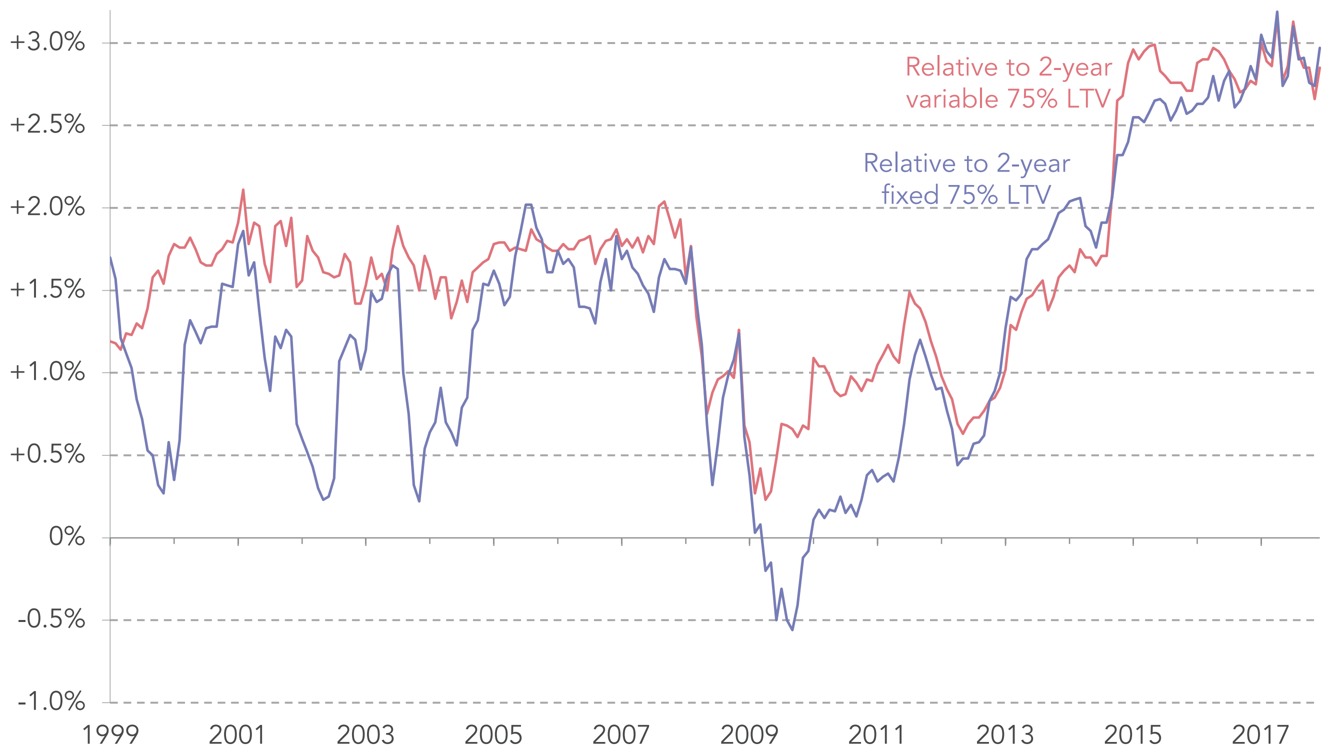
Source: RF analysis of Bank of England, *NMG Survey 2017*

For most mortgagors, refinancing will be relatively straightforward. They might need to opt for a slightly higher rate than they currently get, but – as we have already seen – this is unlikely to cause affordability issues in most instances. But not all mortgagors will enjoy a smooth transition. Some – who, for different reasons, struggle to comply with today's more stringent lending criteria – will find it harder to re-mortgage. These are the so-called 'mortgage prisoners'.

This matters because, faced with limited options, such prisoners might be expected to have to sit on their lenders' standard variable rate mortgages. That leaves them fully exposed to future rate rises (that is, they can't provide themselves with certainty by fixing). And, as Figure 42 shows, standard variable rates are more expensive than other variable and fixed rate deals – more so now than before the financial crisis.

Figure 42: Standard variable rate spreads: UK

Difference between average quoted standard variable rate and other selected quoted average mortgage rates



Source: Bank of England

The loose proxy for potential prisoners that we have made use of in the past covers those with housing equity of less than 5 per cent (reflecting the removal of access to high loan-to-value mortgages post-crisis that we detailed in Figure 7), those with interest only mortgages (reflecting the withdrawal or restriction of such products by most lenders, as shown in Figure 8) and reliance on income from self-employment (considered to be those most likely to struggle to meet new income verification rules that sit behind the disappearance of non-verified mortgages outlined in Figure 8).[18] Given restrictions on high loan-to-income mortgage advances in recent years (Figure 11), we can add in mortgagors with ratios above 4.5 to this proxy.

We add two extra filters. First, given that we might not be too concerned about those who owe relatively little on their mortgage (on the assumption that they have sufficient room for manoeuvre), we remove all those with less than £50,000 remaining to pay. Secondly, given that we might expect the stress tests associated with the introduction of the Mortgage Market Review in 2014 to mean that newer mortgagors *can't* be prisoners, we remove those who have taken out their current deal since then.

Applying each of these measures, we are left with a potential mortgage prisoner group that comprises 11 per cent of all mortgagor households. That's equivalent to 810,000 households in Great Britain.[19]

[18] See K Blacklock & M Whittaker *Hangover Cure: Dealing with the household debt overhang as interest rates rise*, Resolution Foundation, July 2014

[19] This remains an imperfect measure. Some within this group will score highly on one aspect of the potential prisoner status, but will fare better elsewhere and so should have little difficulty securing refinancing. Similarly, some outside of the group – including the unemployed and those with irregular incomes for example – might qualify in practice as 'prisoners'.

This group is relatively evenly spread across the age distribution, but it is disproportionately represented among those few older (65+) households that still have an outstanding mortgage. These potential prisoners are also disproportionately represented among lower income households, comprising 16 per cent of mortgagors in quintile 1 and 17 per cent of mortgagors in quintile 2.

One-in-four (26 per cent) households in this group are already paying the standard variable rate on their mortgage, compared with 16 per cent among non-prisoner mortgagors. And roughly two-thirds (63 per cent) either have a floating rate or a fixed deal that has expired since the *NMG survey* was conducted in September 2017, with this figure set to rise to three-quarters (76 per cent) by the end of 2018. These proportions contrast with the figures we presented for all mortgagors in Figure 41 of 44 per cent and 63 per cent.

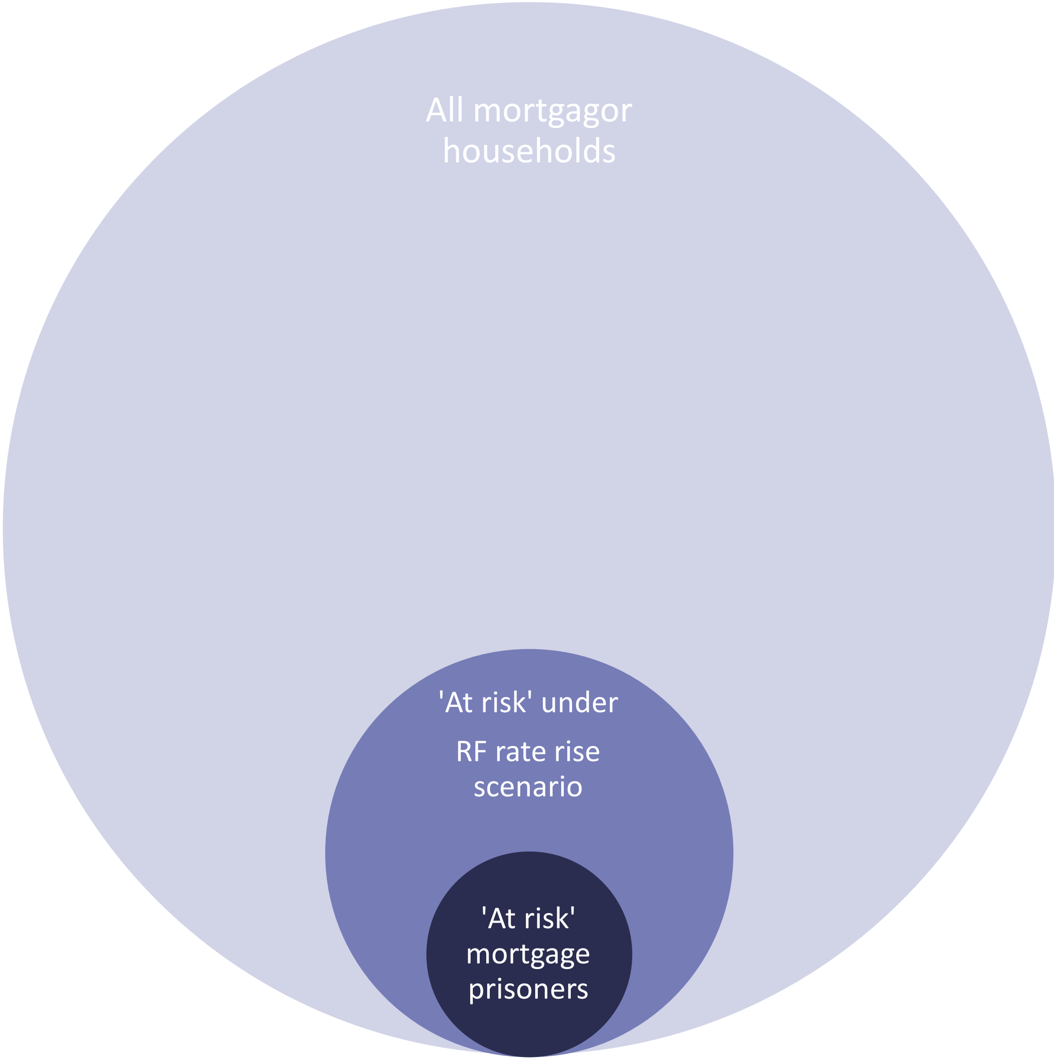
With Figure 42 showing that spreads between standard variable rates and other mortgage deals might be as high as 3 per cent, it's possible that prisoners who have dropped-off, or will in the near future, low fixed and variable rate deals onto higher cost standard variable rate products might face overnight jumps in mortgage payments more in line with those set out in Figure 34. For those already on the standard variable rate, the concern is that they might have little opportunity to switch to a fixed rate deal and so provide themselves with some certainty during a period of rising rates.

It would appear then, that this group is most exposed to the possibility of rising mortgage costs in the coming years. If we overlap it with the 'at risk'[20] group we identified earlier under a scenario in which mortgage rates rise overnight by 2 percentage points, we can get a better sense of the mortgagors who we might be most concerned about entering a period of rising rates. That is, those who would be adversely affected by rate rises but who might find it hard to refinance in order to protect themselves.

Figure 43 shows this overlap. Of the 7.2 million mortgagor households in Great Britain, 15 per cent (roughly 1.1 million) fall into our 'at risk' group following a 2 percentage point interest rate rise. Of this group, around one-in-four (25 per cent) display potential prisoner characteristics. As such, 4 per cent (275,000 households) can be characterised as being both 'at risk' and potential prisoners.

[20] That is, those with mortgage servicing ratios of 30 per cent or higher.

Figure 43: Mortgagor debt servicing ratios and mortgagor prisoners under RF rate rise scenario: GB, 2017



Notes: 'At risk' group represents those mortgagors who would have a mortgage servicing ratio of 30 per cent or more under a scenario in which mortgage rates increased overnight by 2 percentage points. 'Mortgage prisoners' in this context represents those within our proxy prisoner group who would also fall within the 'at risk' category.

Source: RF modelling using Bank of England, *NMG Survey 2017*

The modelling we have presented in this section is approximate and incomplete. As discussed, it takes no account of the non-mortgage effects associated with monetary policy – both in relation to other loans and savings and in relation to wider macroeconomic factors.

It should, however, illustrate the need to ensure that concern with the UK's credit market stretches beyond a focus on the 'surge' in credit that was experienced over the last year or so. The risk associated with that trend appears overdone. And, to the extent that lending criteria *has* loosened over recent months, our new regulators have been quick to intervene. But, as rates start to rise, we should be more concerned with the exposure of lower income families – many of whom already display signs of debt 'distress' – and of potential mortgage prisoners in particular. A period of rising rates may tip some of these households over the edge.

Section 5

Conclusion

Standing at nearly £1.9 trillion, UK household debt remains a big issue. It is one that has very real and very obvious relevance for those families having to meet repayment commitments. But it is one that has macroeconomic implications too: the debt hangover that has endured over the past decade has undoubtedly hampered the UK's recovery from the financial crisis. It is unsurprising therefore that the recent 'surge' in consumer credit growth has provoked some concerns that households are once again storing up problems for the future – especially with interest rate rises expected over the coming years.

The good news is that much of the credit 'surge' appears to have been associated with borrowing by higher income households, who we would expect to be relatively well placed to deal with future shifts in circumstance. And many of the credit market fundamentals look much improved relative to the pre-crisis period, with tighter lending criteria and closer monitoring of potentially unwelcome developments.

But while the flow of credit may be much improved, the stock remains substantial. Increases in the base rate will inevitably increase costs for many indebted households and have the potential to further increase the debt 'distress' faced by some.

In the absence of a further major economic shock, the fall-out from future rate rises is unlikely to pose serious affordability issues for the majority of borrowers however. The base rate is expected to rise only gradually, and to remain well below past norms. With such rises taking time to feed through to borrowing costs – and even then not necessarily in full – most indebted households are likely to be able to comfortably continue to meet their credit commitments.

But the evolution of debt and interest rates will almost certainly create significant difficulty for a minority of households. Predicting how many households will fall into this minority is difficult – the future is inevitably uncertain – but it is clear that lower income borrowers and those with 'atypical' characteristics appear most exposed.

With this in mind, it's important that – along with continuing to ensure the flow of new borrowing is of sufficient quality – regulators and lenders alike are sensitive to the ongoing problems associated with the pre-existing debt overhang.

Resolution Foundation

Resolution Foundation is an independent research and policy organisation. Our goal is to improve the lives of people with low to middle incomes by delivering change in areas where they are currently disadvantaged. We do this by:

- *undertaking research and economic analysis to understand the challenges facing people on a low to middle income;*
- *developing practical and effective policy proposals; and*
- *engaging with policy makers and stakeholders to influence decision-making and bring about change.*

For more information on this report, contact:

Matthew Whittaker
Chief Economist
matthew.whittaker@resolutionfoundation.org
020 3372 2958